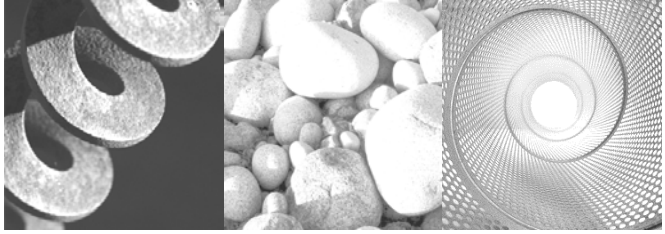

GEI Consultants

Consulting
Engineers and
Scientists

MassDEP RTN 3-23246

Phase V Status Report No. 23 and Remedial Monitoring Report No. 38

50 Tufts Street, Somerville, Massachusetts

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February 2, 2023

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Acronyms and Abbreviations

µg/L	micrograms per liter
AUL	Activity and Use Limitation
CEP	Critical Exposure Pathway
COPC	Compounds of Potential Concern
CRA	Comprehensive Remedial Action
CSA	Comprehensive Site Assessment
DNAPL	dense non-aqueous phase liquid
EPA	U.S. Environmental Protection Agency
EPMM	Exposure Pathway Mitigation Measure
FIR	Final Inspection Report
GEI	GEI Consultants, Inc.
GLX	Green Line Extension
IH	Imminent Hazard
IRA	Immediate Response Action
lbs	pounds
LQG	Large Quantity Generator
LSP	Licensed Site Professional
MassDEP	Massachusetts Department of Environmental Protection
MBTA	Massachusetts Bay Transportation Authority
MCP	Massachusetts Contingency Plan
MNA	Monitored Natural Attenuation
NAPL	non-aqueous phase liquid
NSR	No Significant Risk
OHM	oil and/or hazardous material
OMM	Operation, Maintenance, and Monitoring
PCE	tetrachloroethylene (perchloroethylene)
PSS	Permanent Solution Statement
RAM	Release Abatement Measure
RAO	Response Action Outcome
RAP	Remedial Action Plan
RIP	Remedy Implementation Plan

RMR	Remedial Monitoring Report
ROS	Remedy Operations Status
RTN	Release Tracking Number
SHE	Substantial Hazard Evaluation
SSDS	sub-slab depressurization system
SVE	soil vapor extraction
TCA	1,1,1-trichloroethane
TCE	trichloroethylene
VOC	volatile organic compound

Executive Summary

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Phase V Status Report No. 23 and Remedial Monitoring Report (RMR) No. 38 for the site located at 50 Tufts Street in Somerville, Massachusetts (the Site). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The Site includes the 50 Tufts Street property (the Property), other properties in the neighborhoods east and immediately north, south, and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts. The Site has been in Remedy Operation Status (ROS) for approximately 11 years. This Phase V Status Report No. 23 covers the period from June 16, 2022 to December 15, 2022.

Background

From approximately 1955 to 2002, the Property was used for storage and distribution of industrial chemicals, laundry supplies, and dry-cleaning supplies. Chemicals stored at, and transported to and from the Property, included chlorinated volatile organic compounds (VOCs). These chlorinated VOCs – particularly tetrachloroethylene (also called perchloroethylene [PCE]), trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA) – have been detected in soil, soil vapor, indoor air, and groundwater at the Property and are therefore the compounds of potential concern (COPCs) for the Site. In some buildings within the Site, chlorinated VOCs have been detected in indoor air samples.

The detection of chlorinated VOCs in indoor air at some buildings required the implementation of an Immediate Response Action (IRA). The "Immediate Response Action Plan" associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site was classified as Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP)" (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan" (Phase IV RIP) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11" (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Amendment" (IRAC Report Amendment) was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report" (Phase IV FIR/Phase V ROS) was submitted to MassDEP on August 4, 2011. The Site was reclassified as Tier II on August 1, 2014.

The remedial action alternative (RAA) selected by the Phase III evaluation included:

1. Installing Exposure Pathway Mitigation Measures (EPMMs) to the extent feasible (e.g. vapor barrier and venting system, or sub-slab depressurization systems [SSDSs]), and recording Activity and Use Limitations (AULs) as appropriate, for residences where the soil vapor migration pathway to indoor air has been confirmed, and installing EPMMs in occupied commercial buildings to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of No Significant Risk (NSR).
2. Continuing to operate the soil vapor extraction (SVE) system at the Property to remove COPCs from the vadose zone.
3. Conducting a Site-wide Monitored Natural Attenuation (MNA) program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

The Phase IV FIR/Phase V ROS documented that construction and implementation of the Comprehensive Response Action (CRA) has been completed; and additional activities, such as operation and monitoring of active remedial systems, will be conducted under Phase V ROS.

In accordance with the MCP, particularly 310 CMR 40.0892, this Phase V Status Report No. 23 and RMR No. 38 includes the following information regarding the remedial actions being conducted at the Site:

- A description of the type and frequency of operation, maintenance, and/or monitoring (OMM) activities.
- A description of any significant modifications made to the OMM activities since the last reporting period.
- An evaluation of the performance of the remedial action during the reporting period, including whether the remedial action is achieving remedial goals specified in the Phase IV RIP as described in 310 CMR 40.0874(3), and a description of any conditions or problems identified through OMM activities during the reporting period that are, or may be, affecting the performance of the remedial action.
- A description of the measures taken to address any conditions or problems identified through OMM activities during the reporting period.
- The name, license number, signature and seal of the LSP.

Following is a summary of OMM activities conducted at the Site to date:

Capuano Center

An SSDS is installed in the east wing of the Capuano Center. In addition, GEI sealed certain slab/wall joints at the Capuano Center to mitigate a potential preferred migration pathway. GEI conducted 24 rounds of indoor air sampling after the SSDS was installed in February 2007. The soil vapor migration pathway to indoor air has been eliminated and a condition of NSR has been achieved for occupants of the Capuano Center. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP and has achieved the remedial objectives.

The system currently includes three radon fans on dedicated discharge pipes for each collection header extending above the roofline. Remote telemetry sensors are installed on the system. GEI performed post-modification indoor air sampling on May 23 and 24, 2015. VOCs were not detected above laboratory reporting limits during the indoor air sampling, indicating that the system as modified continues to meet the remedial objectives.

GEI will continue to inspect and maintain the system and continue operation and monitoring under ROS.

Residential and Commercial Properties

As part of the IRA, while Site conditions were still under investigation, GEI took timely action to evaluate and implement measures to eliminate or mitigate Critical Exposure Pathways (CEPs) to the extent feasible. The feasibility of such measures was determined by physical conditions, including the suitability of each property to installation of active or passive vapor controls, and by amenability of property owners to provide legal access. Mitigative measures were initially implemented as IRA activities. The Phase II/Phase III assessment and evaluation of RAAs included response actions to address CEPs as part of the recommended CRA. With the submittal of the Phase IV RIP, the IRA addressing CEPs was closed with an IRAC Report and an IRAC Report Amendment. In accordance with the MCP (310 CMR 40.0427), "mitigation of Critical Exposure Pathway(s) is continuing by incorporation of ongoing response actions to address the Critical Exposure Pathway(s) into the Phase IV Remedy Implementation Plan for the disposal site." Following the submittal of the IRAC Report and IRAC Report Amendment, therefore, all further response actions, including mitigation of any CEPs at the Site, have been conducted in accordance with the Phase IV RIP. Construction and implementation of the CRA has been completed. OMM activities, including operation of active remedial systems and active EPMMs (AEPMMs), continue to be conducted under Phase V ROS or are being implemented as Partial Permanent Solutions Statements (PSSs) with Conditions.

Following is a summary of activities conducted and results obtained with respect to EPMMs through December 15, 2022:

- EPMMs have been installed in 21 residential and commercial properties, not including the EPMMs installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center. One EPMM (at 103 Washington Street) was removed in anticipation of redevelopment when the building was vacant pending demolition. The results of post-EPMM installation indoor air sampling indicate that the remaining 20 EPMMs have achieved the remedial objectives.
- The property at 103 Washington Street is slated for redevelopment into commercial and residential space. Prior to demolition of the building, GEI observed the removal of the SSDS fans and remote telemetry system at the building on May 31, 2017. As of December 2022, the new building at 103 Washington Street is in the final stages of construction with only the interior finishes and exterior landscaping/paving to be completed. GEI is communicating with the developer to perform a vapor intrusion evaluation at the property.
- The property at 105 Washington Street has been redeveloped into commercial and residential space. As of June 2022, construction activities are complete, and the building is occupied. GEI performed sub-slab soil vapor and indoor air sampling in March 2022, and the sampling results indicated that the vapor intrusion pathway is unlikely to be of concern under current conditions. GEI is coordinating with the owner of 105 Washington Street to conduct additional sub-slab soil vapor and indoor air sampling and potentially incorporate vapor mitigation components into the building construction, if necessary.
- The property at 31 Tufts Street, formerly a paved parking lot, is being redeveloped for residential use. 31 Tufts Street LLC and Tufts Glen Pocket Park LLC currently are joint owners of the property. E3 Development, Inc. is the Manager and designated developer. E3 Development is currently constructing a three-story residential apartment building with above-ground parking and public open space. MassDEP assigned RTN 3-37468 to the 31 Tufts Street property based on concentrations of polycyclic aromatic hydrocarbons (PAHs) and metals exceeding the applicable MassDEP reportable concentrations in soil (RCS-1) standards. These conditions are not attributable to the 50 Tufts Street Site. On July 25, 2022, GEI submitted a RAM Plan on behalf of the owners for response actions associated with construction, including soil management and installation of a vapor barrier and a sub-slab ventilation piping network beneath the building. As of December 2022, approximately 1,150 tons of soil has been excavated for offsite disposal within the RAM area in accordance with the RAM Plan. In September 2022, GEI observed the installation of a vapor barrier and a sub slab ventilation piping network beneath the

building. In October 2022, GEI observed a smoke test to confirm barrier integrity. GEI is coordinating with the owner and developer of the property to perform a vapor intrusion evaluation at the property following the completion of building construction.

- The property at 121 Washington Street is being redeveloped into residential apartment units by Khalsa Design, Inc. The property formerly contained a small commercial building with paved parking. The building was demolished in October 2020. As of December 2022, the elevator shaft has been completed, and the framework for the new building and construction of the exterior walls have begun. GEI is coordinating with the owner and developer of the property to install vapor mitigation components into the building construction.
- GEI conducted six EPMM inspections during this reporting period in the months of August and November 2022. GEI was unable to access several of the residential properties but will continue its attempts to obtain access for EPMM inspections at these properties during the next reporting period.
- ARCADIS U.S., Inc. (ARCADIS) prepared an Updated 2015 Method 3 Risk Characterization, which incorporated updated soil, groundwater, and indoor air data sets, and included updated MassDEP toxicity information, particularly for PCE and TCE. Based on the Updated 2015 Method 3 Risk Characterization, the performance of individual EPMMs, and a review of indoor air sampling results for samples collected since the Updated 2015 Method 3 Risk Characterization, a condition of NSR exists for current and future building occupants at each property within the Site.
- A Permanent Solution with Conditions Statement will be submitted for each property with an active or passive EPMM, where the EPMM has achieved the remedial objectives, an AUL has been recorded for the property, and sufficient post-EPMM indoor air sampling has been conducted. The filing of a Partial PSS with Conditions for an individual property documents the achievement of regulatory closure under the MCP for that property. Therefore, the Phase V provisions will not apply to properties for which a Partial PSS with Conditions has been submitted.

60 Tufts Street

An SSDS has been installed in the 17-unit condominium building at 60 Tufts Street. The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences nearly the entire floor slab area. Indoor air testing results indicate that a condition of NSR has been achieved for building occupants at 60 Tufts Street. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP and has achieved the remedial objectives.

Remote telemetry was installed on the system on July 24, 2015. GEI will continue to inspect and maintain the system. GEI monitors parameters and sub-slab conditions for the system (e.g., flow rate, vacuum) at the headers on a quarterly basis. GEI will continue operation and monitoring of the SSDS at 60 Tufts Street under ROS.

Based on pre-EPMM indoor air testing at 60 Tufts Street, and changes to the toxicological characteristics for PCE, the AEPMM may not be required to maintain a condition of NSR. GEI has communicated with the owners and occupants of 60 Tufts Street, who are amenable to EPMM closure indoor air testing. In accordance with MassDEP's 2016 VI Guidance, GEI has initiated a closure indoor air testing program at 60 Tufts Street.

50 Tufts Street Property

An SSDS and an SVE system have been installed at the Property. The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS covers most of the building slab area. The building is currently occupied by several tenants. Based on indoor air testing results collected since the combined system has been in operation, a condition of NSR has been achieved for the building at the Property for full-time commercial workers. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP, and has achieved the remedial objectives. GEI will continue operation and monitoring of the combined SSDS/ SVE system at 50 Tufts Street under ROS.

Remote telemetry was installed on the 50 Tufts Street system on April 14, 2015. The telemetry system at 50 Tufts Street consists of a wireless remote monitoring hub that will receive telemetry notification from the other AEPMMs at the Site. GEI monitors parameters and sub-slab conditions for the system (e.g., flow rate, vacuum, off-gas treatment efficiency) quarterly, and monitors for off-gas treatment efficiency monthly.

The combined SSDS/SVE system installed at the Property serves to protect indoor air quality and to remove source material from the vadose zone below and around the building. Monitoring data from both the SSDS and SVE components through December 15, 2022 show that approximately 9,354 lbs of VOCs have been removed from the vadose zone at the Property. GEI will continue operation and monitoring of the combined SSDS/SVE system at 50 Tufts Street under ROS.

Future Activities and Impact of 2014 MCP Amendments for AEPMMs

Current MCP requirements for AEPMMs implemented to meet the conditions for ROS (310 CMR 40.1026), include an operating regime for the active system and remote monitoring and automatic notification in the event of system failure. Operating regimes for active systems at

the Site were included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011 and included an OMM plan for the active systems.

The MCP requires that remote telemetry provide the owner and operator of the building and MassDEP notification upon failure of the system. Remote telemetry has been installed at each property with an AEPMM including the Capuano Center, except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to telemetry access request letters, telephone calls, and property visits. Therefore, it is currently infeasible to install telemetry at this property.

MassDEP has indicated that the upcoming MCP changes may include a revision to the telemetry reporting requirements. GEI has retained Integrasense to evaluate any necessary system modifications, and to support system maintenance, that may be required.

GLX Project

The MBTA, through its contractor GLX-Constructors, has substantially completed work to extend MBTA Green Line service to Union Square in Somerville and beyond to College Avenue in Medford. This Green Line Extension (GLX) Project includes significant infrastructure improvements near the Site, including a new pump station, reconstruction of the bridge passing over Washington Street, new train tracks within the MBTA right-of-way (ROW), a new train station, and utility improvements.

The MBTA, GLX Constructors, and their contractors have initiated three Release Tracking Numbers (RTNs) related to construction activities undertaken at the Site:

- RTN 3-30620: A Special Project Designation (SPD) for the entire project.
- RTN 3-35528: A Utility-related Abatement Measure (URAM) for managing potentially contaminated soil and groundwater associated with installing a stormwater conveyance system within and adjacent to the MBTA ROW, and the demolition and replacement of the existing Washington Street Pump Station.
- RTN 3-34742: A Release Abatement Measure (RAM) for management of CVOC impacted soil encountered during GLX Project activities within Site boundaries.

GEI has not been provided with timely information concerning project plans, field work, or MCP submittals by the MBTA and GLX Constructors. GEI has reviewed and evaluated the soil characterization and groundwater data publicly available for RTNs 3-34742, 3-30620, and 3-35528, and analytical results for soil disposal pre-characterization samples collected within the MBTA ROW. The soil characterization data have no impact on the previous risk characterization conclusions or remedial alternatives selected for the Site. However, upon review of the data, GEI made a minor adjustment to the Site boundary in Phase V Status

Report No. 17, to include a portion of the MBTA ROW near Cross Street where very low PCE concentrations were detected in soil samples collected for construction purposes.

Monitored Natural Attenuation

GEI conducts groundwater sampling once per year at 18 monitoring wells at the Site to confirm that the overburden and bedrock groundwater plumes remain stable. Monitoring wells MW104 and SHMW2 were included in prior annual groundwater sampling events. The wells were destroyed, however, by the MBTA's contractor as part of the GLX Project. On a semi-annual basis, GEI has been monitoring concentration fluctuations in MW122, MW112A, MW121D, and MW118D. Groundwater concentrations measured at these wells have been within a range of fluctuation that is consistent with continuing plume stability, particularly when considered in context with prior groundwater results from all monitoring wells. Overall, results from the 18 monitoring wells sampled as part of the MNA program indicate that the groundwater plumes are stable.

GEI will perform additional groundwater sampling in April 2023.

Remedial Monitoring Report No. 38

Remedial Monitoring Report No. 38, documenting OMM activities of active remedial systems at the Site, is presented in the BWSC-108A and 108B Transmittal Forms in Appendix A.

1. Introduction

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Phase V Status Report No. 23 and Remedial Monitoring Report (RMR) No. 38 for the site located at 50 Tufts Street in Somerville, Massachusetts (the Site; Fig. 1-1). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The Site includes the 50 Tufts Street property (the Property), other properties in the neighborhoods east and immediately north, south, and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts (Fig. 1-2). The Site has been in Remedy Operation Status (ROS) for approximately 11 years. This Phase V Status Report No. 23 covers the period from June 16, 2022 to December 15, 2022.

1.1 Contact Information

Entity Undertaking Response Actions
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Wilmington, MA 01887

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Entity who will own, operate, and/or maintain the selected Remedial Action Alternative (RAA):
UniFirst Corporation
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Wilmington, MA 01887
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Contact Person
Catherine Malagrida, P.G.
Environmental Compliance Manager
UniFirst Corporation
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978-658-8888 ext. 0587

1.2 Background

In 2002, a release of chlorinated volatile organic compounds (VOCs) (particularly tetrachloroethylene [also known as perchloroethylene (PCE)], trichloroethylene [TCE], and 1,1,1-trichloroethane [TCA]) to soil and groundwater at the Property was reported to the MassDEP and assigned RTN 3-23246. Three other RTNs were subsequently issued for the Site: 3-24358, 3-24376, and 3-26114. For tracking and reporting purposes, these RTNs have been consolidated under RTN 3-23246.

The detection of chlorinated VOCs in indoor air at some buildings within the Site required the implementation of an Immediate Response Action (IRA). The "Immediate Response Action Plan" associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site was classified as Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP)" (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan" (Phase IV RIP) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11" (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Amendment" (IRAC Report Amendment) was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report," (Phase IV FIR/Phase V ROS) was submitted to MassDEP on August 4, 2011. The Site was reclassified as Tier II on August 1, 2014.

The Phase II/Phase III identified the following areas of the Site requiring investigation and mitigation:

- The Property;
- The Capuano Center;
- 60 Tufts Street, a 17-unit condominium building north of the Property; and
- Certain residences and commercial buildings located near the Property.

The RAA selected by the Phase III was:

1. Installing Exposure Pathway Mitigation Measures (EPMMs) to the extent feasible (e.g. vapor barrier and venting system, or sub-slab depressurization systems [SSDSs]), and recording Activity and Use Limitations (AULs) as appropriate, for residences where the soil vapor migration pathway to indoor air has been confirmed, and installing EPMMs in occupied commercial buildings to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of No Significant Risk (NSR).
2. Continuing to operate the soil vapor extraction (SVE) system at the Property to remove compounds of potential concern (COPCs) from the vadose zone.
3. Conducting a Site-wide Monitored Natural Attenuation (MNA) program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

As part of the IRA, while Site conditions were still under investigation, GEI took timely action to evaluate and implement measures to eliminate or mitigate Critical Exposure Pathways (CEPs) to the extent feasible. The feasibility of such measures was determined by physical conditions, including the suitability of each property to installation of active or passive vapor controls, and by amenability of property owners to provide legal access. Mitigative measures were initially implemented as IRA activities. The Phase II/Phase III assessment and evaluation of RAAs included response actions to address CEPs as part of the recommended Comprehensive Response Action (CRA). With the submittal of the Phase IV RIP, the IRA addressing CEPs was closed with an IRAC Report and IRAC Report Amendment, in accordance with the MCP, particularly 310 CMR 40.0427 ("mitigation of Critical Exposure Pathway(s) is continuing by incorporation of ongoing response actions to address the Critical Exposure Pathway(s) into the Phase IV Remedy Implementation Plan for the disposal site"). Following submittal of the IRAC Report and IRAC Report Amendment, all further response actions were continued under Phase IV and Phase V.

The CRA for the Site includes continued active operation and maintenance of the existing commercial and residential EPMMs, and the SSDS and SVE system at the Property, to achieve a Permanent Solution pursuant to 310 CMR 40.0890. It is GEI's opinion that the Site meets the requirements for ROS in accordance with the MCP (310 CMR 40.0893[2]):

- The Phase III RAP was completed on July 14, 2008. The Phase IV RIP was completed on August 10, 2009.
- A final inspection has been performed and confirmed that the CRA has been constructed and implemented in accordance with the Phase IV RIP and is meeting projected design standards to achieve a Permanent Solution.
- Each source of oil and/or hazardous material (OHM) is controlled at the Site. Non-aqueous phase liquid (NAPL) is not visibly present at the Site. Any dense non-aqueous phase liquid (DNAPL) that may be present is not migrating and exists in a stable configuration. The Phase III demonstrated that it is not feasible to eliminate DNAPL at the Site. The dissolved-phase groundwater plumes and vapor plumes are stable and are not causing an increase in concentrations of VOCs in groundwater, soil, soil vapor, or indoor air. There are no unpermitted releases of OHM at the Site.
- Any substantial hazards have been eliminated as documented in the Substantial Hazard Evaluation (SHE) completed by ARCADIS U.S., Inc. (ARCADIS) of Chelmsford, Massachusetts in August 2011. ARCADIS also completed a Site-wide Method 3 Risk Characterization in August 2015, and GEI routinely performs Method 3 risk screening for additional indoor air data collected since 2015. Based on these risk evaluations, and based on the performance of individual EPMMs, a condition of NSR exists for current and future building occupants at each property within the Site.

- GEI has identified the longest duration of a shutdown of each active EPMM (AEPMM) that would be consistent with levels of exposure that do not pose an Imminent Hazard (IH) and poses a condition of NSR.

Construction and implementation of the CRA have been completed; additional activities, such as operation and monitoring of active remedial systems, or installation of new EPMMs, will be conducted under Phase V. The Site will operate in ROS until a Permanent Solution is achieved, except for any portions of the Site that may be closed under Partial Permanent Solution Statements (PSSs) with Conditions. Operating the SSDS and SVE systems, together with MNA, will ultimately achieve a Permanent Solution for the Site.

GEI will continue to conduct annual operation, maintenance, and/or monitoring (OMM) activities for installed EPMMs where sufficient indoor air sampling has been conducted, and not repeat indoor air testing, to confirm continued system effectiveness. GEI also conducts groundwater sampling and analysis as part of the MNA program.

1.3 Purpose and Scope

The Site entered Phase V with the submittal of the Phase IV FIR/Phase V ROS on August 4, 2011. In accordance with the MCP (310 CMR 40.0892), this Phase V Status Report No. 23 and RMR No. 38 includes the following information regarding the remedial actions being conducted at the Site:

- A description of the type and frequency of OMM activities.
- A description of any significant modifications made to the OMM activities since the last reporting period.
- An evaluation of the performance of the remedial action during the reporting period, including whether the remedial action is achieving remedial goals specified in the Phase IV RIP as described in 310 CMR 40.0874(3), and a description of any conditions or problems noted during the reporting period that are or may be affecting the performance of the remedial action.
- A description of the measures taken to correct any conditions or problems that may have been encountered during the reporting period.
- The name, license number, signature, and seal of the LSP.

This report covers the period from June 16, 2022 through December 15, 2022. Details of the engineering concepts, design criteria, construction plans, and specifications were previously provided to MassDEP as part of the Phase IV RIP, IRA Status Reports, RMRs, and IRA Plan Modifications and are not revisited in this report.

1.4 Public Involvement (310 CMR 40.1400)

UniFirst and GEI conducted a series of community meetings to inform property owners, residents, and City of Somerville (the City) officials about the Site. GEI will provide copies of this Phase V Status Report No. 23 and RMR No. 38 to the local public document repositories that were established for the Site at the Somerville Central Public Library and at the City of Somerville Clerk's Office.

This report was submitted through eDEP (Transaction No. 1395616) on February 2, 2023. A draft copy of the eDEP Transmittal Form (BWSC-108) is provided in Appendix A.

Copies of property owner notification letters, including notice of sampling letters, chemical testing results letters, and other miscellaneous correspondence sent during the reporting period, are in Appendix B.

2. GLX Project

2.1 Background

The Massachusetts Bay Transit Authority (MBTA), through its contractor GLX Constructors, has substantially completed to extend MBTA Green Line service to Union Square in Somerville and beyond to College Avenue in Medford. The GLX Project includes significant infrastructure improvements near and through the Site, including a new pump station, reconstruction of the bridge passing over Washington Street, new train tracks within the MBTA right-of-way (ROW), a new train station, and utility improvements. The MBTA, GLX Constructors, and their contractors have initiated three RTNs related to construction activities undertaken at the Site. Chris McDermott of TRC Environmental of Lowell, Massachusetts, a subcontractor to GLX Constructors, is the LSP of Record for GLX Construction.

2.2 GLX RTNs

The MBTA, GLX Constructors, and their contractors have initiated three RTNs related to construction activities undertaken at the Site.

2.2.1 RTN 3-34742

On January 23, 2018, MBTA filed a Release Notification Form (RNF) for concentrations of PCE detected in the wet well within the pump station located at 132 Washington Street. MassDEP issued RTN 3-34742. On April 25, 2019, MassDEP issued MBTA a Notice of Noncompliance for failure to submit a Permanent Solution Statement, Tier Classification Submittal, or Downgradient Property Status (DPS) Submittal within one year of the RNF. In June 2019, Weston & Sampson, on behalf of MBTA, filed a DPS Submittal attributing conditions reported in the RNF to the Site.

On July 11, 2019, TRC, on behalf of GLX Constructors, filed a RAM Plan under RTN 3-34742 for management of CVOC impacted soil encountered during GLX Project activities within Site boundaries. According to TRC, up to 14,000 cubic yards of CVOC impacted soil were to be managed under this separate RAM. TRC conducted in-situ soil sampling along the MBTA ROW behind the 50 Tufts Street building. Concentrations of PCE were detected up to 14 ppm.

On November 15, 2019, TRC filed RAM Status Report No. 1. The report states that between July and September 2019 approximately 11,680 tons of soil were transported off-site and disposed of as hazardous waste to Heritage Environmental Services landfill in Roachdale, Indiana. Although the soil was characterized as hazardous waste, it was stored off-site for

more than 90 days prior to disposal. According to TRC, a Utility-related Abatement Measure (URAM) completion report for RTN 3-35528 (Section 2.2.3) was submitted on August 7, 2019.

On May 15, 2020, TRC filed RAM Status Report No. 2. The report states that between October 2019 and March 2020 approximately 5,124 tons of soil were transported off-site and disposed of as hazardous waste to Heritage Environmental Services landfill in Roachdale, Indiana.

On February 14, 2020, GLX obtained MassDEP's approval of a Contained-In Determination Petition to reclassify excavated soil with concentrations of chlorinated VOCs less than the MCP S-1/GW1 standard as non-hazardous waste. Nonetheless, TRC reported that all excavated soil was transported off-site as listed hazardous waste.

On November 10, 2020, TRC filed RAM Status Report No. 3. The report states that between April and August 2020 approximately 1,576 tons of soil were transported off-site and disposed of as hazardous waste at Heritage Environmental Services landfill in Roachdale, Indiana.

On September 21, 2020, GLX obtained MassDEP's approval of a Contained-In Determination No.2 Petition to reclassify excavated soil with concentrations of chlorinated VOCs less than the MCP S-1/GW1 standard as non-hazardous waste. According to the RAM Status Report, between March and August 2020 approximately 2,107 tons of soil were transported off-site to Lynn Landfill, in Lynn Massachusetts, including soil managed under the Contained-In Determination.

On May 10, 2021, TRC filed RAM Status Report No. 4. According to the RAM Status Report, between October 10 and October 13, 2020 approximately 960 tons of soil were transported off-site to Lynn Landfill, in Lynn Massachusetts. In December 2020, approximately 408 tons of soil were transported to Allied Niagara Falls Landfill, in Niagara Falls, New York.

On October 27, 2021, TRC filed RAM Status Report No. 5. According to the RAM Status Report, between February 22 and August 24, 2021, approximately 4,387 tons of soil were transported off-site to Lynn Landfill, in Lynn Massachusetts. Between April 23 and August 16, 2021, approximately 362.5 tons of soil were transported off-site to Allied Niagara Falls Landfill, in Niagara Falls, New York. TRC noted in the RAM Status Report that this total does not include the tonnage report for soil shipped on July 20 and July 21, 2021.

On May 6, 2022, TRC filed RAM Status Report No. 6. According to the RAM Status Report, on July 20 and July 21, 2021, a total of 15.03 tons of soil were transported off-site to Allied Niagara Falls Landfill, in Niagara Falls, New York, the final weights were previously

missing from the RAM Status Report No. 5. Between September 6, 2021 and November 4, 2021, a total of 545.63 tons of soil were transported off-site to Allied Niagara Falls Landfill, in Niagara Falls, New York. On December 17, 2021 6.46 tons of soil were transported off-site to Lynn Landfill, in Lynn, Massachusetts. On February 2 and February 3, 2022, five loads (approximately 100 cubic yards) of soil were transported to Heritage Environmental Services in Roachdale, Indiana for disposal. The soil was generated during grading and trenching activities within the RAM Area. The disposal documents were not included in TRC's RAM Status Report No. 6.

On October 6, 2022, TRC filed RAM Status Report No. 7. On February 2 and February 3, 2022, 145.31 tons of soil were transported to Heritage Environmental Services in Roachdale, Indiana for disposal, the final weights were previously missing from the RAM Status Report No. 6. Additionally, on February 3, 2022, 27.07 tons of soil were transported off-site to Lynn Landfill, in Lynn Massachusetts. Between March 9 and March 15, 2022, a total of 519.77 tons of soil were transported off-site to Allied Niagara Falls Landfill, in Niagara Falls, New York. Between March 15 and May 25, 2022, 595.96 tons of soil were transported off-site to Lynn Landfill, in Lynn, Massachusetts.

2.2.1.1 Contained-In Determinations

It is our understanding that soil excavated as part of the Washington Street pump house installation (RTN 3-34742) was transported and used as part of a clean soil cap at the Vehicle Maintenance Facility (VMF). The Washington Street pump house is within the boundaries of the Site (RTN 3-23246). The VMF is not. We have reviewed the Contained-In Determinations prepared by TRC on behalf of GLX Constructors for the MBTA GLX project. The following summary is based on that review; however, we have significant uncertainty since the Contained-In Determinations do not clearly explain the timeline or soil management procedures. The Contained-In Determinations are in App C.

According to a Contained-In-Determination dated February 26, 2021 that GLX Constructors submitted to MassDEP for the VMF, soil from construction of the pump house (RTN 3-34742) may have been stockpiled at the VMF for some time before it was used in the construction of a clean soil cap beginning in 2018. Subsequently, in October 2020, soils were generated from within the VMF cap during grading and utility excavation activities and were stockpiled. The stockpiled soils were sampled and concentrations of PCE and TCE were detected above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards for a Contained-In Determination.

GLX prepared a total of three Contained-In Determinations (February 26, April 8, and April 26, 2021) for the stockpiled soils. It is unknown if the soils were reused on the VMF site or disposed off-site.

TRC submitted an additional Contained-In Determination on May 26, 2021 for soil generated near the Washington Street Pump Station and on the MBTA ROW. Soil included in the Contained-In Determination exhibited concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standard.

TRC submitted an additional Contained-In Determination on June 30, 2021, for approximately 40 cubic yards of soil generated at the VMF during utility excavations within the soil cap. Soil included in the Contained-In Determination exhibited concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standard.

TRC previously submitted seven additional Contained-In Determinations (July 23, November 15, November 15, and December 17, 2021, and January 20, March 3, and April 25, 2022) for soil generated near the Washington Street Pump Station. A summary of each Contained-In Determination is below:

- Soil included in the July 23, 2021, Contained-In Determination was generated at the Washington Street Pump Station during utility manhole excavations; the soil sample was collected from a stockpile (~340 cubic yards), and soil included in the Contained-In Determination exhibited concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standard.
- Contained-In Determination No. 5 dated November 15, 2021 was prepared for stockpiled soil (~500 cubic yards) generated during the excavation and removal of an Underground Storage Tank (UST) at the Washington Street Pump Station. Concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standard were detected in one of the four soil samples collected.

  On January 10, 2022, TRC submitted a clarification letter to MassDEP, stating that the soil subject to the Contained-In Determination was generated in association with the removal of a UST (RTN 3-36931) and that shipping documents would be filed under both RTN 3-34742 and 3-36931.
- A Contained-In Determination dated November 15, 2021 was prepared for stockpiled soil (~20 cubic yards) generated from the cleanup of runoff sediment at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE, 1,1,1-TCA, and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.
- A Contained-In Determination dated December 17, 2021 was prepared for stockpiled soil (~40 cubic yards) generated from the clean-out of the Washington Street Pump Station House. Soil included in the Contained-In Determination exhibited concentrations of PCE and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.

- On January 20, 2022, TRC submitted a Contained-In Determination for stockpiled soil (~ 400 cubic yards) generated during site grading at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.
- On March 3, 2022, TRC submitted a Contained-In Determination for stockpiled soil (~ 120 cubic yards) generated during site grading at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.
- On April 25, 2022, TRC submitted a Contained-In Determination for stockpiled soil (~ 60 cubic yards) generated during site grading at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE and TCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.

During this reporting period, TRC prepared one additional Contained-In Determination (November 17, 2022) for soil generated near the Washington Street Pump Station (Appendix C). A summary of the Contained-In Determination is below:

- A Contained-In Determination dated November 17, 2022 was prepared for stockpiled soil (~260 cubic yards) generated from site landscaping at the Washington Street Pump Station. Soil included in the Contained-In Determination exhibited concentrations of PCE above the laboratory reporting limits but below the applicable MCP Method 1 S-1/GW-1 standards.

2.2.2 RTN 3-30620

On July 18, 2019, TRC, on behalf of GLX Constructors, filed RAM Status Report No. 7, under the Special Project Designation (SPD) RTN 3-30620. According to TRC, approximately 5,440 cubic yards of soil were excavated from within the Site boundary as part of GLX Project activities conducted under the SPD. TRC stated in RAM Status Report No. 7 that soil to be excavated in the future would be managed under a different RAM Plan submitted under RTN 3-34742. The Report also stated that dewatered groundwater would be managed under a URAM under RTN 3-35528.

2.2.3 RTN 3-35528

On April 12, 2019, TRC, on behalf of GLX Constructors, filed a URAM Plan for managing potentially contaminated soil and dewatered groundwater associated with installing a stormwater conveyance system within and adjacent to the MBTA ROW and the demolition

and replacement of the existing Washington Street Pump Station. TRC estimated up to 6,000 cubic yards of soil would be generated under the URAM.

On August 7, 2019, TRC filed a URAM Completion Report for RTN 3-35528. The report stated that 1,950 cubic yards of soil were excavated and managed under the URAM. Some of the soil was stockpiled within the ROW and some was transported offsite and stockpiled at an unidentified MBTA-owned property. The report also stated that off-site disposal of a portion of this stockpiled soil to an unidentified out-of-state hazardous waste landfill began on or about July 14, 2019. Disposal of the stockpiled soil was expected to take 45 days.

In the URAM Completion Report, TRC states that all future soil originating from the Site and the ROW adjacent to the Site would be managed under the July 2019 RAM Plan for RTN 3-34742, and that all disposal documentation related to soil, sediment and granulated activated carbon (GAC) change outs would be submitted in RAM Status Reports for RTN 3-34742.

2.2.4 Soil Characterization Data from MBTA ROW and Washington Street

On December 23, 2019 the MBTA provided UniFirst with a copy of a letter from Michael Clark, P.E. LSP, BSC Group of Boston, Massachusetts addressed to Andrew Friedmann, PhD of the MassDEP providing analytical results for soil disposal pre-characterization samples collected for construction purposes within the MBTA ROW between October 20 and November 6, 2019. The ROW sample locations are on Fig. 2-1, and a summary of the soil analytical results are in Appendix C.

In February and March 2020, GLX Constructors collected pre-characterization samples for construction purposes beneath the Washington Street bridge and along the ROW as documented in RAM Status Report No. 2 for RTN 3-34742. The sampling locations are on Fig. 2-1 and a summary of the soil analytical results are in Appendix C.

In April 2020, GLX Constructors collected pre-characterization samples for construction purposes on the 50 Tufts Street property near the northwest corner of Tufts Street and Washington Street and within Washington Street as documented in RAM Status Report No. 3 for RTN 3-34742. The sampling locations are on Fig. 2-1 and a summary of the soil analytical results are in Appendix C.

Between July 17 and August 18, 2020 GLX Constructors collected pre-characterization samples for construction purposes from stockpiles generated during excavation of manholes on the 50 Tufts Street property and from within the project ROW as documented in RAM Status Report No. 3 for RTN 3-34742. A summary of the soil analytical results are in Appendix C.

On April 8, 2021, GLX Constructors collected a sample from an excavation at the Washington Street pump station and two soil samples from stockpiles generated during pump station utility excavations. The samples were collected to update characterization data to facilitate the disposal of soil as documented in the May 2021 Contained-In Determination and RAM Status Report No. 5 for RTN 3-34742. The sampling locations are on Fig. 2-1 and a summary of the soil analytical results are in Appendix C.

Between April 23 and June 10, 2021, TRC collected pre-characterization samples for construction purposes from stockpiles generated during excavation of utility lines and utility manholes within the project RAM Area as documented in RAM Status Report No. 5 for RTN 3-34742. A summary of the soil analytical results is in Appendix C.

On October 7, 2021, TRC collected a pre-characterization sample from a stockpile generated during the removal of a UST in connection with IRA activities. The soil samples were included in RAM Status Report No. 6, and the IRA RTN (3-36931) was linked to RTN 3-34742 due to the detection of PCE in the soil stockpile. A summary of the soil analytical results is in Appendix C.

Between October 22 and November 9, 2022, TRC collected two pre-characterization samples for construction purposes from soil generated during the clean-out of the Washington Street Pump House as documented in RAM Status Report No. 6 for RTN 3-34742. A summary of the soil analytical results is in Appendix C.

On November 11, 2022, TRC collected one pre-characterization sample for construction purposes from stockpiles generated during grading and trenching activities within the RAM Area as documented in RAM Status Report No. 6 for RTN 3-34742. The stockpile characterized was approximately 140 cubic yards. The soil was characterized for disposal at Heritage Environmental Services, in Roachdale, Indiana. A summary of the soil analytical results is in Appendix C.

Between December 20, 2021 and January 12, 2022, TRC collected two pre-characterization samples for construction purposes from stockpiled soil generated during grading activities in the RAM Area as documented in RAM Status Report No. 6 for RTN 3-34742. A summary of the soil analytical results is in Appendix C.

On March 11, 2022, TRC collected one characterization sample for construction purposes from stockpiled soil generated during installation of a gas line as documented in RAM Status Report No. 7 for RTN 3-34742. The stockpile characterized was approximately 60 cubic yards. The soil was characterized for disposal at Lynn Landfill, in Lyn, Massachusetts. A summary of the soil analytical results is in Appendix C.

3. Current Conceptual Site Model and Disposal Site Boundary

As defined in the MCP, the Conceptual Site Model (CSM) is a "dynamic framework for assessing site characteristics and risk, identifying and addressing data gaps and managing uncertainty, eliminating or controlling contaminant sources, developing and conducting response action strategies, and evaluating whether those strategies have been effective in achieving desired endpoints." (310 CMR 40.0006). GEI has developed and continued to update the CSM for the Site as appropriate based upon the investigation data documented in previous reports, including the Phase II Comprehensive Site Assessment, Immediate Response Action (IRA) Plan and Status Reports, the Phase IV Remedy Implementation Plan (RIP), and prior Phase V Remedy Operations (ROS) Status Reports. In Phase V Status Report No. 17, GEI updated the CSM and Disposal Site Boundary to include a portion of the MBTA ROW near Cross Street where de minimis PCE concentrations were detected in soil samples collected for construction purposes.

4. Data Collection

4.1 Groundwater Sampling

GEI conducted semi-annual groundwater sampling at 4 monitoring wells in November 2022. A summary of all GEI groundwater sampling activities at the Site, including dates of sampling during this reporting period, is in Table 4-1. The groundwater testing results are summarized in Table 4-2, along with groundwater data from previous investigations. Groundwater sampling conducted on behalf of the MBTA between 2012 and 2014 by Kleinfelder, and in 2020 by TRC, as part of the GLX Project is summarized in Table 4-3.

Monitoring well locations and the monitoring wells sampled by GEI during this reporting period are shown in Fig. 4-1. The laboratory data report associated with the November 2022 groundwater testing is in Appendix D.

4.2 Comparison of PCE Concentrations to GW-2 Standards

Fig. 1-2 presents the disposal site boundary, based on laboratory analytical results for environmental samples collected through November 2022. Fig. 1-2 also delineates the areas in which concentrations of PCE in shallow groundwater (i.e., 15 feet or less) exceed current and pending Method 1 GW-2 standards, based on Site-wide groundwater sampling results through November 2022.

The current Method 1 GW-2 standard for PCE in shallow groundwater is 50 micrograms per liter (µg/L). MassDEP published proposed revisions to the MCP on April 19, 2019, which have yet to be promulgated; these draft regulations would change the Method 1 GW-2 standard for PCE to 20 µg/L. Fig. 1-2 shows the extent of PCE in shallow groundwater exceeding the proposed Method 1 GW-2 standard, which is not significantly different from the extent of PCE in shallow groundwater exceeding the current GW-2 standard (50 µg/L). Extensive sub-slab soil vapor and indoor air testing has been performed at the properties that are within the area where PCE in shallow groundwater exceeds 20 µg/L, except for 159 Glen Street, where the owner has been unresponsive to access request letters and property visits seeking access to conduct sampling. We do not anticipate that additional investigation will be required if the Method 1 GW-2 standard for PCE is reduced to 20 µg/L.

4.2.1 Groundwater Plume Stability

Based on historic groundwater sampling conducted since 2006, the nature and extent of groundwater contamination at the Site has been well-characterized. In addition, groundwater analytical results are incorporated into the MNA program to support the plume stability

monitoring and natural attenuation evaluation, as discussed in Section 9. Based on an analysis of the Mann-Kendall statistical trend test results, which incorporates the additional groundwater testing data, the extent of the PCE, TCE, and TCA groundwater plumes continues to be stable or slightly decreasing at the Site.

4.3 Soil Vapor Sampling

From January 2006 through December 15, 2022, GEI collected soil vapor samples at 58 residences and commercial buildings. Fig. 4-2 shows buildings where GEI conducted soil vapor sampling. The procedure for collecting soil vapor samples was in IRA Status Report No. 3. Samples typically were collected from below the basement slab.

GEI did not collect sub-slab soil vapor samples during this reporting period. During the previous reporting period, GEI collected a sub-slab vapor sample from 9 Knowlton Street on June 9, 2022. However, the analytical results were not available during the preparation of the last report and are therefore being presented in this report.

The sub-slab soil vapor samples were submitted to Alpha for laboratory analysis by EPA Method TO-15 with the following modified list of analytes:

- 1,1-Dichloroethane
- 1,1-Dichloroethylene (1,1-DCE)
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane (TCA)
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- Vinyl Chloride

The sub-slab soil vapor testing results for 9 Knowlton Street are summarized in Table 4-4. The laboratory data report is in Appendix D.

4.4 Soil Vapor Sampling – Checklists and Methods

GEI collected one soil vapor sample from the existing monitoring point at 9 Knowlton Street to evaluate the concentrations of chlorinated VOCs in soil vapor beneath the building. GEI collected soil vapor samples using SUMMA® canisters and regulators provided by Alpha. Each canister was certified clean by Alpha. Copies of the certifications are in Appendix D. The soil vapor samples were collected over a 1-hour period.

Flow regulators were attached to the SUMMA® canisters at the location of the testing. The laboratory-set flow regulator was then turned on, and the starting pressure and time recorded. The regulator was turned off before reaching ambient pressure, and the final pressure and time were recorded. Sub-Slab Monitoring Point Installation Log, Pre-Sampling Checklists,

and Sub-Slab Sampling Checklists completed for the sub-slab soil vapor samples collected during this reporting period are in Appendix E.

4.5 Indoor Air Sampling

From January 2006 through December 15, 2022, GEI collected indoor air samples at 75 residences and commercial buildings. Fig. 4-2 shows buildings where GEI conducted indoor air sampling. The procedure for collecting indoor air samples was in IRA Status Report No. 3. Samples are typically collected from the basement and first floor of each building.

GEI did not collect indoor air samples during this reporting period, however GEI collected air samples from 9 Knowlton Street on June 9, 2022. The analytical results were not available at the time of the previous Phase IV Status Report and are summarized in this report. The indoor air samples were submitted to Alpha for laboratory analysis by EPA Method TO-15 with the following modified list of analytes:

- 1,1-Dichloroethane
- 1,1-Dichloroethylene (1,1-DCE)
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane (TCA)
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- Vinyl Chloride

The recent and historical indoor air testing results for 9 Knowlton Street are summarized in Tables 4-5. The laboratory data report is in Appendix D.

4.6 Indoor Air Sampling – Checklists and Methods

GEI collected indoor air samples from the first floor and the basement of 9 Knowlton Street, using SUMMA® canisters and regulators provided by Alpha. Each canister was certified clean by Alpha. Copies of the certifications are in Appendix D. The indoor air samples were collected over an approximately 24-hour period.

Flow regulators were attached to the SUMMA® canisters at the location of the testing. The SUMMA® canisters were placed so that the air inlet was approximately 3 to 5 feet above the floor. The laboratory-set flow regulator was then turned on, and the starting pressure and time were recorded. The regulator was turned off before reaching ambient pressure, and the final pressure and time were recorded. Pre-Sampling Checklists and Indoor Air Sampling Checklists completed for each indoor air sample collected during this reporting period are in Appendix E.

4.7 Meteorological Conditions

Measurements were taken with a portable barometer and thermometer during soil vapor sampling at 9 Knowlton Street and were recorded on the Sub-Slab Sampling Checklists (Appendix E). Meteorological conditions recorded during indoor air sampling events for this reporting period are summarized in Table 4-6.

5. Capuano Center

5.1 Background

The mitigation system at the Capuano Center is an SSDS with 18 sub-slab extraction points in six classrooms of the east wing. The interior slab/exterior wall joints of the six classrooms were sealed with a flexible epoxy sealant and extraction points were installed horizontally through the exterior wall. GEI began operating the SSDS on February 1, 2007.

The system sub-slab vapor extraction points are attached to three collection headers in exterior underground trenches, which are connected to three dedicated discharge pipes with radon fans for each collection header above the roofline of the Capuano Center. Remote telemetry on the system consists of two radio nodes and three pressure switches connected to the three radon fans to send notification of a system shut down remotely to the wireless remote monitoring hub located at the Property.

The system does not include off-gas treatment. Based upon the measured flow rate and VOC concentrations, the annual discharge rate of VOCs from the system has been significantly less than 100 lbs per year; therefore, no off-gas treatment is required per MassDEP Policy No. WSC-94-150: "Off-gas Treatment of Point-Source Remedial Air Emissions," dated 1994.

5.2 Remedial Objectives

The design objectives of the Capuano Center mitigation system were to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for occupants of the Capuano Center.

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences the southern portion of the east wing. In conjunction with the physical sealing of the slab/wall joint, this indicates the soil vapor migration pathway to indoor air is controlled by the system.

5.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP, and in accordance with the requirements and schedule presented in subsequent Phase IV Status Reports, and the Phase IV FIR/Phase V ROS.

Monitoring of the system was historically performed monthly; however, once telemetry was installed on the system, GEI began performing quarterly monitoring in July 2015. Monitoring of system parameters at the headers (flow rate, vacuum, and photoionization detector [PID] readings) and PID readings at outdoor monitoring points are conducted quarterly. Inspection and monitoring at the Capuano Center were performed two times from June 2022 to December 2022. A summary of monitoring activities conducted during this reporting period is in Table 5-1 and the Field Monitoring Forms are in Appendix F.

5.4 System Modifications

No system modifications were made during this reporting period.

5.5 Performance Efficiency and Effectiveness

GEI has completed 24 rounds of indoor air sampling in the Capuano Center. The results of each round of sampling show that the system is meeting remedial design objectives (Table 5-2). Based on the indoor air testing results, and regularly collected system performance data, the soil vapor migration pathway to indoor air has been eliminated and a condition of NSR has been achieved for occupants of the Capuano Center. GEI has discontinued indoor air sampling and relies on monitoring of operating parameters for the system to confirm continued effectiveness.

5.6 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the subsurface collection header pipes, or the cleanout drain for the header pipes. If observed, SSDS condensate will be pumped from the headers into the cleanout, which drains into the subsurface at the property.

5.7 Future Phase V Activities

Based on indoor air testing results, a condition of NSR has been achieved for occupants of the Capuano Center and the system is achieving the remedial design objectives. Since remote telemetry is now installed on the system, GEI will continue to monitor operational parameters and sub-slab conditions for the system (e.g., flow rate, vacuum), and collect readings from all outdoor monitoring points quarterly, to confirm ongoing system performance. GEI discontinued monitoring at interior monitoring points in April 2016, and instead relies on vacuum monitoring at exterior monitoring points to evaluate system effectiveness. During monitoring events, GEI will also perform maintenance tasks, which may include draining accumulated water from the collection headers and correcting any issues observed during routine inspection of system components.

5.7.1 Longest Allowable Duration of AEPMM Shutdown

An operating regime and OMM plan for the Capuano Center AEPMM were included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR is 6 years for the Capuano Center system.

5.7.2 Regulatory Closure

As discussed further in Section 6.6, a Permanent Solution with Conditions can be achieved for properties where an AEPMM has achieved the remedial objectives, an AUL has been recorded for the property, and telemetry is installed. A Partial Permanent Solution with Conditions Statement may be submitted to achieve regulatory closure for the Capuano Center if the owner of the property, the City of Somerville, executes an AUL.

6. Residential and Commercial Properties

6.1 EPMM Installation

Through December 16, 2022, EPMMs have been installed at 21 residential and commercial properties. EPMMs were also installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center. The EPMMs at 50 Tufts Street, 60 Tufts Street, and the Capuano Center are discussed separately in this report.

Between June 16, 2022 and December 15, 2022, no new EPMMs were installed. One previously installed EPMM (at 103 Washington Street) was removed in anticipation of redevelopment when the building was vacant pending demolition. Accordingly, there are currently 20 installed EPMMs at the Site.

6.1.1 103 and 105 Washington Street

The properties at 103 and 105 Washington Street are being developed into combined commercial and residential use buildings. Though originally being developed by separate owners, both properties are currently owned by Hodan Property Management.

GEI observed that ground-breaking construction had begun at 105 Washington Street in July 2019. The building was demolished between March and June 2019. In September 2019, GEI observed that the construction of an elevator shaft had begun. GEI did not receive notification that these activities had commenced until they were largely completed. As of June 2022, construction activities are complete and the building is occupied.

GEI conducted indoor air and sub-slab soil vapor sampling at 105 Washington Street in March 2022. Concentrations of VOCs were not detected above the MassDEP residential soil vapor screening values, or the residential indoor air Threshold Values (TVs) indicating that the vapor intrusion pathway is unlikely to be of concern under current conditions. GEI is communicating with the owner to arrange for additional soil vapor and indoor air sampling during winter 2023.

As of December 2022, the new building at 103 Washington Street is in the final stages of construction with only the interior finishes and exterior landscaping/paving to be completed. GEI is communicating with the developer to perform a vapor intrusion evaluation at the property.

6.1.2 31 Tufts Street

The property at 31 Tufts Street, formerly a paved parking lot, is being redeveloped for residential use. 31 Tufts Street LLC and Tufts Glen Pocket Park LLC currently are joint owners of the property. E3 Development, Inc. is the Manager and designated developer. E3 Development is currently constructing a three-story residential apartment building with above-ground parking and public open space. MassDEP assigned RTN 3-37468 to the 31 Tufts Street property based on concentrations of polycyclic aromatic hydrocarbons (PAHs) and metals exceeding the applicable MassDEP reportable concentrations in soil (RCS 1) standards. These conditions are not attributable to the 50 Tufts Street Site. On July 25, 2022, GEI submitted a RAM Plan on behalf of the owner for response actions in connection with construction, including soil management and installation of a vapor barrier and a sub-slab ventilation piping network beneath the building. As of December 2022, approximately 1,150 tons of soil has been excavated for offsite disposal within the RAM area in accordance with the RAM Plan. In September 2022, GEI observed the installation of a vapor barrier and a sub slab ventilation piping network beneath the building. In October 2022, GEI observed a smoke test to confirm barrier integrity. GEI is coordinating with the owner and developer of the property to perform a vapor intrusion evaluation at the property.

6.1.3 121 Washington Street

The property at 121 Washington Street is being redeveloped into residential apartment units. The property formerly contained a small commercial building with paved parking. The building was demolished in October 2020. As of December 2022, the elevator shaft has been completed, and the framework for the new building and construction of the exterior walls have begun. GEI is coordinating with the owner and developer of the property to install vapor mitigation components into the building construction.

6.2 EPMM Status

Fig. 6-1 shows the buildings with EPMMs installed. Table 6-1 presents the as-built design information for each installed EPMM.

The EPMM designs are categorized as Option 1, Option 2, or Option 3, as conceptually defined below:

- Option 1 – SSDS: This option includes the installation of one or more sub-slab vapor extraction points and a collection piping network connected to an electric fan located outside the building envelope. The fan is equipped with a condensate bypass drain and the fan exhaust is discharged above the eave line of the roof. To date, no SSDSs (except for the system at the Property) require off-gas treatment. This option is

installed in buildings with adequate sub-slab air flow and a competent concrete slab, or those properties where vapor barrier and venting systems are infeasible.

- Option 2 – Vapor Trench: The vapor trench option is a sub-slab venting system installed in a shallow trench around the interior basement perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the slab and stucco walls. The trench is backfilled with crushed stone and finished with approximately three inches of new concrete to meet the existing slab surface. This option is installed in buildings with poor sub-slab air flow, a competent concrete slab, and a fieldstone and/or brick foundation. Sub-slab vapors are vented through a piping network that exits the building envelope at the sill elevation and terminates above the eave line of the roof.
- Option 3 – New Slab: The new slab installation option is a new concrete slab, a sub-slab vapor barrier, and a floor venting system; applying cement stucco to the walls; and applying an epoxy vapor barrier to the new slab and stucco walls. This option is installed in buildings with poor sub-slab air flow, an incompetent concrete slab, and a fieldstone and/or brick foundation. As with Option 2, sub-slab vapors are vented through a piping network that exits the building envelope at the sill elevation and terminates above the eave line of the roof.

The decision-making process for selecting a conceptual design based on Site-specific conditions is illustrated in Fig. 6-2. Table 6-1 identifies the design option for each EPMM currently installed and the primary engineering components of each.

6.2.1 Remedial Objectives

The design objectives of the EPMMs were to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air in residential buildings.
- Achieve a condition of NSR for occupants of the residence or commercial building.

6.3 Option 1 EPMMs

Option 1 EPMMs consist of active sub-slab depressurization achieved by the installation of a radon fan and associated network of piping. Several of the Option 1 EPMMs were originally installed as Option 2 or Option 3 EPMMs; however, the concentrations of PCE measured in the post-installation indoor air did not constitute a condition of NSR, and a fan was installed. Option 1 EPMMs have been installed at the following 10 properties:

- 35-37 Knowlton Street (originally Option 3)
- 31-33 Knowlton Street

- 13 Morton Street
- 18 Morton Street
- 23 Tufts Street
- 103 Washington Street (deactivated May 31, 2017)
- 95 Franklin Street (originally Option 2)
- 9 Knowlton Street
- 13 Knowlton Street
- 27 Tufts Street (originally Option 3)

Prior to the MCP amendments effective June 20, 2014, these properties could not achieve a Permanent Solution because of the operation of an active system. These properties can now achieve regulatory closure with a Partial PSS with Conditions, provided that the property owner executes an AUL. The condition associated with the PSS would be operation and maintenance of the AEPMM in accordance with the AUL.

6.3.1 Operation and Monitoring

To confirm the performance of an EPMM, indoor air samples are collected shortly after installation is complete. As identified in the Phase IV FIR/Phase V ROS for Option 1 EPMMs, following the initial post-installation indoor air sampling, indoor air samples were collected one time per winter for two consecutive years. In accordance with MassDEP guidance, "WSC No. 16-435: Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure," dated October 14, 2016 (2016 VI Guidance), GEI modified the post-installation indoor air sampling for newly installed Option 1 EPMMs to demonstrate effectiveness. Once a pressure differential has been established, one round of indoor air sampling is performed during the heating season. The samples are analyzed for Site-specific chlorinated VOCs. Following one round of indoor air sampling, differential pressure across the slab will be used to demonstrate system effectiveness.

Inspection and monitoring also includes measuring VOCs at sub-slab sampling points with a PID, collecting pressure measurements using a manometer, and inspecting system components. If needed, repairs or modifications will be scheduled.

A summary of OMM activities performed for Option 1 EPMMs during this reporting period is presented in Table 6-2. GEI was unable to access: 9 Knowlton, 35-37 Knowlton Street, 13 Morton Street, 23 Tufts Street and 27 Tufts Street during this reporting period. GEI is scheduled to conduct an EPMM inspection at 9 Knowlton Street in January 2023. GEI will continue its attempts to obtain access for EPMM inspections at these properties during the next reporting period. EPMM Inspection Forms are in Appendix G.

Based on focused Method 3 risk characterization calculations performed by ARCADIS, which incorporate pre-EPMM indoor air sampling results, several Option 1 EPMMs at the Site may not be required to maintain a condition of NSR. This is a result of the updated MassDEP toxicity characterization for PCE issued in January 2014.

6.3.2 AEPMM Closure Testing at 13 Knowlton Street

On November 1, 2016, a shutdown valve was installed on the SSDS riser pipe at 13 Knowlton Street. To simulate conditions without operation of the AEPMM, the SSDS fan was turned off and the shutdown valve was closed, for one week, prior to collecting soil vapor and indoor air samples in December 2016, February 2018, and March and November 2019.

After the indoor air and soil vapor sampling was completed, the shutdown valve was opened, and the fan was reactivated. Based on the results of the Option 1 EPMM closure sampling, GEI will continue to evaluate the need for an AEPMM to achieve a condition of NSR at 13 Knowlton Street. GEI has scheduled additional indoor air and soil vapor closure sampling for January 2023.

6.3.3 AEPMM Closure Testing at 9 Knowlton Street

On May 11, 2022, a shutdown valve was installed on the SSDS riser pipe at 9 Knowlton Street. To simulate conditions without operation of the AEPMM, the SSDS fan was turned off and the shutdown valve was closed, for six weeks, prior to collecting soil vapor and indoor air samples in June 2022.

After the indoor air and soil vapor sampling was completed, the shutdown valve was opened, and GEI requested that the owner reactivate the fan. Based on the results of the Option 1 EPMM closure sampling, GEI will continue to evaluate the need for an AEPMM to achieve a condition of NSR at 9 Knowlton Street. GEI has scheduled additional indoor air and soil vapor closure sampling for January 2023.

6.3.4 Longest Allowable Duration of AEPMM Shutdown

An operating regime for residential AEPMMs was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the systems. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the following exposure durations were calculated for Option 1 EPMMs where pre-EPMM indoor air data were available:

- 13 Knowlton Street: 54 years
- 23 Tufts Street: 11 years

- 27 Tufts Street: 25 years
- 31-33 Knowlton Street: 31 years
- 35-37 Knowlton Street: 4 years

Several Option 1 EPMMs were installed based on sub-slab soil vapor results, and pre-EPMM indoor air data are not available (including 13 Morton Street, 18 Morton Street, 95 Franklin Street, 103 Washington Street, and 9 Knowlton Street). However, based on the proximity of the AEPMMs throughout the Site, the shutdown exposure durations calculated for the properties with pre-AEPMM indoor air data are likely representative of the AEPMM properties with no pre-AEPMM indoor air data. Therefore, the longest duration of shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR at these properties is likely between 4 and 54 years.

6.3.5 Efficiency and Effectiveness

For residential buildings, the primary goals for EPMM performance are the reduction of chlorinated VOC concentrations in indoor air to below laboratory reporting limits to the extent feasible, and to achieve a condition of NSR. For commercial buildings, the standard for successful EPMM performance is the reduction of chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.

Through December 15, 2022, the results of post-EPMM installation indoor air sampling and monitoring indicate that each of the Option 1 EPMMs installed or activated at residential and commercial properties has achieved the remedial objectives.

6.3.6 System Maintenance and Modifications

GEI has been evaluating the current telemetry system in consideration of the proposed MCP amendments. The proposed amendments include continual monitoring of system vacuum. Hardware changes at residences will be necessary if and when the amendments go into effect, including replacing the radio node on the exterior of the house and replacing vacuum pressure switches with vacuum pressure transducers in the basement of each residence. These modifications will require GEI to access the interior of residences. GEI will monitor the status of the MCP amendments and will coordinate with property owners.

On November 4, 2021, GEI and Integrasense visited the Site to conduct an inspection of the telemetry system. Integrasense noted that the cellular modem was not communicating, and the main antenna had vegetative growth obstructing communication. Integrasense removed the cellular modem for off-site repairs and the telemetry system is temporarily shut down. In January 2022, Integrasense replaced the main antenna and cellular modem; however, the main node also required replacement. On March 29, 2022, Integrasense replaced the main

radio node at 50 Tufts Street. GEI conducted shutdown tests at 27 Tufts Street and 60 Tufts Street, and received notifications via email. GEI also replaced batteries at radio nodes as needed.

6.3.7 Management of Waste Materials

No waste materials associated with Option 1 EPMMs were generated during the reporting period.

6.4 Option 2 and 3 EPMMs

Option 2 and 3 EPMMs consist of passive vapor mitigation and do not require mechanical operation or maintenance. Option 2 or 3 EPMMs have been installed at the following 11 properties:

- 95R Franklin Street (Option 2)
- 12 Morton Street (Option 3)
- 11 Morton Street (Option 2)
- 4 Morton Street (Option 3)
- 10 Morton Street (Option 3)
- 91-93 Franklin Street (Option 3)
- 17 Knowlton Street (Option 3)
- 32 Knowlton Street (Option 3)
- 34 Knowlton Street (Option 3)
- 19-19A Morton Street (Option 3)
- 166-168 Glen Street (Option 3)

In accordance with the MCP (310 CMR 40.1000) prior to the June 20, 2014 MCP amendments, regulatory closure was achieved with a Class A-3 Response Action Outcome Partial (RAO-P) Statement for several properties with an Option 2 or 3 EPMM. The properties that have achieved a Class A-3 RAO-P are presented in Fig. 6-3. In the amended MCP, the term "Response Action Outcome" has been replaced with "Permanent or Temporary Solution." Subsequent regulatory closure for individual properties with Option 2 or 3 EPMMs will be achieved with Partial PSSs with Conditions. The condition associated with the PSSs with Conditions will be maintenance of the passive EPMM in accordance with an AUL.

6.4.1 Operation and Monitoring

To confirm the performance of an EPMM, indoor air samples are collected shortly after installation is complete. As identified in the Phase IV FIR/Phase V ROS for Option 2 and 3 EPMMs, following the initial post-installation indoor air sampling, indoor air samples

were collected two times per year (including one winter sample) for two consecutive years. In accordance with MassDEP 2016 VI Guidance, GEI modified the post-installation indoor air sampling for newly installed Option 2 and 3 EPMMs to demonstrate effectiveness:

- If groundwater concentrations are less than two times the Method 1 GW-2 standard, and sub-slab soil gas concentrations are less than two times soil gas screening values, and indoor air concentrations are less than two times threshold values (TVs), GEI will perform 2 rounds of indoor air sampling, with one round occurring during the heating season.
- If groundwater concentrations are greater than two times the Method 1 GW-2 standard, and/or sub-slab soil gas concentrations are greater than two times soil gas screening values, and/or indoor air concentrations are greater than two times TVs, GEI will perform quarterly indoor air sampling, with two rounds occurring during the heating season.

Additional indoor air sampling beyond the first year may be performed based on property-specific conditions. Samples will be analyzed for Site-specific chlorinated VOCs. During indoor air sampling, the condition of the EPMM will be inspected and, if needed, repairs or modifications will be scheduled.

Following the completion of post-installation indoor air sampling, annual inspection and monitoring will include inspecting system components. If needed, repairs or modifications will be scheduled.

A summary of OMM activities performed for Option 2 and 3 EPMMs during this reporting period is presented in Table 6-2. GEI was unable to access: 4 Morton Street, 10 Morton Street, 11 Morton Street, 12 Morton Street, 19-19A Morton, 91-93 Franklin Street, 17 Knowlton Street, 34 Knowlton, and 95R Franklin Street during the reporting period. GEI will continue its attempts to obtain access for EPMM inspections at these properties during the next reporting period. EPMM Inspection Forms are in Appendix G.

6.4.2 Efficiency and Effectiveness

For residential buildings, the primary goals for EPMM performance are the reduction of chlorinated VOC concentrations in indoor air to below laboratory reporting limits to the extent feasible, and to achieve a condition of NSR. For commercial buildings, the standard for successful EPMM performance is the reduction of chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.

Through December 15, 2022, the results of post-EPMM installation indoor air sampling indicate that the Option 2 or 3 EPMMs currently installed at residential properties have achieved the remedial objectives.

6.4.3 System Maintenance and Modifications

No modifications were made to systems during the reporting period.

6.4.4 Management of Waste Materials

No waste materials associated with Option 2 or 3 EPMMs were generated during the reporting period.

6.5 Activity and Use Limitations

It is anticipated that AULs may be recorded for each property where an EPMM is installed, and the property owner executes the AUL. No AULs were recorded during this reporting period.

6.6 Permanent Solution Statements

GEI evaluates the groundwater chemical testing results collected during MNA activities to update and supplement the plume stability monitoring and natural attenuation evaluation, as presented in the Phase II CSA / Phase III RAP report. An evaluation of the MNA program indicates that the groundwater plumes are stable, overall groundwater concentrations of chlorinated VOCs are not increasing, and natural attenuation processes are occurring at the Site which will likely reduce contaminant concentrations in groundwater over time. Previous investigations have also demonstrated that soil vapor plumes are stable. Visible NAPL has not been observed at the Site, and any DNAPL that may be present is not migrating and exists in a stable configuration. The Phase III demonstrated that it is not feasible to eliminate DNAPL at the Site. There are no unpermitted releases of OHM at the Site. Accordingly, all sources of OHM at the Site have been eliminated or controlled to the extent feasible.

The Updated 2015 Method 3 Risk Characterization that ARCADIS prepared was presented in Phase V Status Report No. 8 and RMR No. 23. The Updated 2015 Method 3 Risk Characterization incorporated updated soil, groundwater, and indoor air data sets, and also included updated MassDEP toxicity information, particularly for PCE and TCE. GEI also routinely performs Method 3 risk screening for additional indoor air data collected since 2015. Based on these risk evaluations, a condition of NSR exists for current and future building occupants at each property within the Site. Based on the Updated 2015 Method 3 Risk Characterization, a condition of NSR does not exist for future construction workers

performing excavations at the Property or within the MBTA ROW. The inhalation of excavation air pathway associated with the MassDEP change in TCE toxicity is the main driver of potential risks for construction workers in both of these exposure areas. However, these construction worker risks can and should be managed with a Health and Safety Plan (HASP) that is prepared and implemented prior to subsurface work in these exposure areas.

Based on a demonstration of source control at the Site, and a condition of NSR at individual properties, many of the individual properties are eligible for a Partial PSS in accordance with the MCP (310 CMR 40.1000). The filing of a Partial PSS for an individual property documents the achievement of regulatory closure under the MCP for that property. Therefore, the Phase V provisions do not apply to properties for which an RAO-P or Partial PSS has been submitted.

The properties that have achieved a Partial PSS are shown on Fig. 6-3. A summary of the different classes of Partial PSSs to be submitted in the future for properties at the Site, depending on the property-specific conditions and the type of mitigation, if any, are discussed below.

Active operation and maintenance is required for Option 1 EPMMs. Based on the MCP amendments effective June 20, 2014, a PSS with Conditions can be achieved for properties with an Option 1 EPMM. The condition associated with the PSSs with Conditions would be maintenance of the EPMM in accordance with an AUL. No new AULs were recorded during the reporting period.

6.6.1 Permanent Solution without Conditions

GEI will prepare a Partial PSS without Conditions for residences where multiple lines of evidence have demonstrated the absence of a soil vapor migration pathway to indoor air and an EPMM is not required. GEI will also prepare Partial PSSs for residences where a Method 3 Risk Characterization, based on multiple rounds of sampling, indicated that concentrations of chlorinated VOCs in indoor air constitute NSR, and the feasibility evaluation demonstrated that installation of an EPMM was infeasible. In addition, GEI will prepare a Partial PSS without Conditions for the portion of the Site occupied by public rights-of-way. The properties that have achieved a Partial PSS without Conditions are shown in Fig. 6-3.

6.6.2 Permanent Solution with Conditions

GEI will attempt to record an AUL at each property with an Option 1, 2 or 3 EPMM to maintain the integrity of the EPMM. After an AUL is recorded, GEI will prepare a Partial PSS with Conditions for residential properties with Option 1, 2 or Option 3 EPMMs where 2 years of post-installation indoor air samples have demonstrated that the EPMM is effective.

Following the post-installation indoor air sampling, GEI will continue annual inspections of Option 1, 2 and 3 EPMMs as provided for in the Phase IV RIP. The properties that have achieved a Partial PSS with Conditions are shown in Fig. 6-3. If a property owner does not execute an AUL, inspections will continue as Phase V activities.

6.7 Future Phase V Activities

6.7.1 EPMM Operation and Monitoring

The results of post-EPMM installation indoor air sampling indicate that the Option 1, 2, and 3 EPMMs installed at the Site have achieved the remedial objectives.

GEI will continue to conduct annual OMM activities for installed EPMMs where sufficient indoor air sampling has been conducted, but not repeat indoor air testing, to confirm it is achieving the remedial design objectives.

GEI has been communicating with property developers for 103 and 105 Washington Street, 31 Tufts Street, and 121 Washington Street. If new EPMMs are installed, GEI will plan with the property owners to continue the operation and monitoring program outlined in Section 6.3 and Section 6.4.

6.7.2 EPMM Modifications

As discussed in Section 6.1, the properties located at 103 and 105 Washington Street are being redeveloped into commercial and residential spaces. The buildings at both properties have been demolished and the AEPMM previously at 103 Washington Street has been removed.

As discussed in Section 6.3, remote telemetry has been installed at each Option 1 EPMM except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to telemetry access request letters, telephone calls, and property visits. Therefore, it is infeasible to install telemetry at the property.

6.7.3 EPMM Closure Sampling

As discussed in Section 6.3.2 and 6.3.3, GEI collected indoor air samples from 13 Knowlton Street in February 2018, March 2019, and November 2019, and from 9 Knowlton Street in June 2022, to demonstrate that the Option 1 EPMM is not required to maintain a condition of NSR.

Based on the results of the Option 1 EPMM closure sampling, GEI will continue to evaluate the need for an AEPMM to achieve a condition of NSR at 9 Knowlton and 13 Knowlton Street. Additional indoor air and soil vapor closure sampling is scheduled for January 2023.

6.7.4 Installation of New EPMMs

GEI is communicating with property developers at 103 and 105 Washington Street, 31 Tufts Street, and 121 Washington Street concerning potential vapor mitigation controls that may be incorporated into the new proposed buildings at those properties, if necessary.

6.7.5 AULs and Permanent Solutions

As discussed in Section 6.6., the source of contamination at the Site has been controlled. If post-installation indoor air sampling at a property demonstrates that an EPMM continues to achieve the remedial objectives, then that property is eligible for a Partial PSS with Conditions.

GEI anticipates recording AULs for each property where an EPMM is installed and a Partial PSS with Conditions is to be issued.

Once the AULs are recorded, GEI will prepare a Partial PSS with Conditions for the properties with EPMMs. As discussed in Section 6.6.1, GEI will prepare Partial PSSs for those properties that did not require mitigation.

7. 60 Tufts Street

7.1 Background

60 Tufts Street is a 17-unit condominium building adjacent to the Property. The mitigation system at 60 Tufts Street was designed and constructed as an SSDS. The SSDS includes 12 vertical sub-slab extraction points and 2 horizontal foundation wall extraction points connected to 2 collection headers and a 5-horsepower regenerative blower with pressure gauges, controls, and particulate filter housed in a locked metal enclosure. GEI began operation of the SSDS on April 24, 2009. A discharge pipe extends from the blower through a parking garage deck and discharges above the roofline of the building.

On July 24, 2015, remote telemetry was installed at 60 Tufts Street. The remote telemetry consists of one radio node and one pressure switch connected to the blower to send notification of a system shut down remotely to the wireless remote monitoring hub located at the Property.

The system does not include off-gas treatment. Based upon the measured flow rate and VOC concentrations, the annual discharge rate of VOCs from the system will be significantly less than 100 lbs per year; therefore, no off-gas treatment is required per MassDEP Policy No. WSC-94-150.

7.2 Remedial Objectives

The objectives of the SSDS at 60 Tufts Street are to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for occupants of the condominium building.

7.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP, and in accordance with the requirements and schedule presented in subsequent Phase IV Status Reports, and the Phase IV FIR/Phase V ROS.

Operational parameters for the system (e.g., flow rate, vacuum) were historically monitored monthly and indoor air quality in Units 1, 4, and 5 and sub-slab conditions were monitored for 2 years following installation of the EPMM. The Phase IV RIP provided for ongoing annual indoor air sampling. However, post-EPMM indoor air sampling and visual

inspections confirmed that the EPMM at 60 Tufts Street has been constructed in accordance with the Phase IV RIP and has achieved the remedial design objectives. Accordingly, GEI no longer conducts annual indoor air testing, but has continued to monitor operational parameters of the system.

Once remote telemetry was installed on the system on July 24, 2015, GEI began to perform monitoring of system parameters on a quarterly basis in July 2015. Inspection and monitoring at 60 Tufts Street was performed two times from June 2022 to December 2022. There have been no shutdowns during the current reporting period. A summary of monitoring activities conducted during this reporting period is provided in Table 7-1 and the Field Monitoring Forms are provided in Appendix F.

7.4 Performance Efficiency and Effectiveness

As presented in the Phase IV RIP and Phase IV FIR/Phase V ROS reports, the SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences nearly the entire floor slab area. Indoor air samples were collected in Units 1, 4, and 5, which are the units closest to the ground floor, for 2 years after EPMM installation. The indoor air testing results indicated that a condition of NSR has been achieved for building occupants at 60 Tufts Street and the soil vapor migration pathway to indoor air has been mitigated to the extent feasible.

7.4.1 AEPMM Closure Testing

On March 20, 2018, a shutdown valve was installed on the SSDS riser pipe at 60 Tufts Street. To simulate conditions without operation of the AEPMM, the SSDS fan was turned off and the shutdown valve was closed for one week beginning on April 17, 2019, prior to collecting soil vapor and indoor air samples. After the indoor air sampling was completed, the shutdown valve was opened, and the blower was reactivated. The results of the indoor air and soil vapor sampling were presented in Phase V Status Report #16.

GEI will perform additional closure sampling to continue evaluating if operation of the AEPMM is required to maintain a level of NSR. GEI has lost contact with the owner allowing access to Unit #4 for closure sampling due to property sale, and will initiate access requests with the new owner to continue AEPMM closure testing.

7.5 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the cleanout drains for the sub-surface header pipes, or in the moisture separator installed as part of the blower assembly. If observed, the liquid will be drained and dispensed to the bare ground surface at 60 Tufts Street so that it can infiltrate into the subsurface within the Site boundary.

7.6 System Modifications

No system modifications were made during the monitoring period.

7.7 Future Phase V Activities

The system is achieving the remedial design objectives and OMM activities will continue. To confirm system performance, GEI will continue to monitor operational parameters and sub-slab conditions (e.g., flow rate, vacuum) on a quarterly basis. During monitoring events, GEI will also perform maintenance tasks as needed, which may include documenting that the blower is in operation, draining accumulated water from the moisture separator or collection headers, changing the filter element for the blower, changing the batteries in the auto-dialer, and correcting any issues observed during routine inspection of system components. GEI will implement any modifications to the telemetry system that may be required.

7.7.1 EPMM Closure Sampling

Based on pre-EPMM indoor air testing at 60 Tufts Street, and changes to the toxicological characteristics for PCE, the EPMM may not be required to maintain a condition of NSR. GEI has communicated with the owners and occupants of 60 Tufts Street, who are amenable to EPMM closure indoor air testing.

In accordance with MassDEP's 2016 VI Guidance, GEI initiated a closure indoor air testing program at 60 Tufts Street during spring 2018, which is:

- Installing a shutdown valve on March 20, 2018 on the ventilation piping of the EPMM;
- Performing indoor air sampling at 60 Tufts Street in July 2018 and April 2019;
- Shutting down the SSDS fan for 7 days prior to indoor air sampling;
- Keeping the shutdown valve closed for 7 days prior to sampling to effectively prevent venting; and
- Following each sampling event, returning the system to normal operating conditions.

As described above, GEI has lost contact with the owner allowing access to Unit #4 for closure sampling due to property sale and will initiate access requests with the new owner to continue AEPMM closure testing.

7.7.2 Longest Allowable Duration of AEPMM Shutdown

An operating regime for the 60 Tufts Street AEPMM was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in

Status Report No. 7 and RMR No. 22, the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR is 52 years for the 60 Tufts Street property.

7.7.3 Regulatory Closure

As discussed previously in Section 6.6, a Permanent Solution with Conditions can be achieved for properties where an AEPMM has achieved the remedial objectives, an AUL has been recorded for the property, and telemetry is installed. A Partial Permanent Solution Statement with Conditions may be submitted to achieve regulatory closure for 60 Tufts Street if the condominium association for the property executes an AUL. If the last round of shutdown testing demonstrates that an AEPMM no longer is required to maintain a condition of NSR, then a Partial Permanent Solution may be achievable without an AUL.

8. 50 Tufts Street Property

8.1 Background

The remedial system at the Property was originally designed and constructed as an SSDS that includes 22 sub-slab extraction points inside the building, a 15-horsepower regenerative blower with pressure gauges, controls, and particulate filter, and three 2,000-lb activated carbon absorbers operated in series for off-gas treatment. As part of the SSDS installation, the building slab was sealed to minimize vapor transmission through the slab. The cracks and joints in the building slab were filled with flexible sealant and a two-part epoxy coating was applied to the surface of the slab. GEI began operating the SSDS on April 30, 2007.

In July and August 2007, SVE components were added to the system as part of the CRA to address residual VOCs in soil. The SVE system includes seven SVE points installed below the pavement in the north and south parking lots on the Property. The SSDS and the SVE system rely upon shared equipment, including the piping manifold, blower assembly, and off-gas treatment units. GEI began operating the SVE system on August 22, 2007.

In April 2015, a wireless telemetry hub was installed at the Property. The telemetry hub receives telemetry notification from the other AEPMMs at the Site. A radio node was also installed and connected to monitor the 50 Tufts Street system.

8.2 Remedial Objectives

The design objectives of the combined SSDS/SVE system were to:

- Eliminate or mitigate, to the extent feasible, the soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for a commercial full-time worker.
- Reduce the mass of contaminants in the vadose zone.
- Control the potential migration of soil vapor from the Property to the 60 Tufts Street property.

8.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP. Monitoring of the system was historically performed monthly; however, once telemetry was installed on the system, GEI began performing quarterly monitoring in July 2015. Operational parameters for the system (e.g., flow rate, vacuum, off-gas treatment

efficiency) were monitored five times from June 2022 to December 2022. GEI also measures the vapor pressure of sub-slab extraction points and monitoring points periodically. GEI uses these sub-slab pressure measurements to confirm system effectiveness. The pipe and hose connections on the pressure side of the blower are examined during monitoring visits for potential leaks. Leaks, if encountered, are corrected immediately. Carbon change-outs are scheduled based on carbon tank monitoring data to maximize VOC adsorption while maintaining compliance with regulatory requirements regarding discharge of VOCs to the atmosphere. Procedures to address potential spills of spent activated carbon during carbon change-outs have been developed and are presented in the system OMM Plan provided in the Phase IV RIP.

GEI performs monitoring for off-gas treatment efficiency monthly. Based on that monitoring, the system off-gas for the combined SSDS/SVE system was within permissible limits during the reporting period. A summary of monitoring activities during this reporting period is provided in Table 8-1, and Field Monitoring Forms are provided in Appendix F.

8.4 Performance Efficiency and Effectiveness

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS covers most of the building slab area. In conjunction with the physical sealing of the slab, this indicates the soil vapor migration pathway to indoor air is being mitigated by the system. Based on indoor air testing results collected since the combined system has been in operation, and the Method 3 risk characterizations prepared for the Site, a condition of NSR for full-time commercial workers has been achieved for the building at the Property.

The SVE system monitoring data show that vacuum influence from the SVE points in the south parking lot extends approximately 30 feet south of the building and from the SVE points in the north parking lot extends onto 60 Tufts Street.

Three influent and two effluent samples from the carbon treatment system were collected in May 2007, June 2007, and March 2008. The results of this sampling were compared with PID field measurements to estimate the total mass of VOCs removed from soil vapor between April 2007 and May 2014. However, GEI collected more recent influent and effluent samples in February 2014. The results of the February 2014 influent and effluent sampling are a better indicator of current system conditions and were used to estimate the total mass of VOCs removed from soil vapor based on PID field measurements beginning in June 2014. Monitoring data from both the SSDS and SVE components through June 16, 2022 show that approximately 9,354 lbs (approximately 694 gallons) of VOCs have been removed from the vadose zone at the Property (Fig. 8-1).

8.5 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the moisture separator installed as part of the blower assembly. If observed, the liquid is drained from the moisture separator and dispensed to the bare ground surface at the Property so that it can infiltrate into the subsurface within the Site boundary.

Based on the previous quantities of spent carbon generated by the system, a 2021 Hazardous Waste Report was submitted to MassDEP on February 16, 2022, identifying the Property as a Large Quantity Generator (LQG) facility. GEI will submit the next biennial Hazardous Waste Report in early 2024.

No remediation waste was generated during this reporting period.

8.6 System Modifications

No system modifications were made during this reporting period.

8.7 Future Phase V Activities

The system is achieving the remedial design objectives. Phase V ROS OMM activities will continue in accordance with the requirements and schedule set forth in the Phase IV RIP.

8.7.1 Longest Duration of AEPMM Shutdown

An operating regime for the 50 Tufts Street AEPMMs was included in the Phase IV FIR/ Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system. Indoor air sampling performed at 50 Tufts Street by GeoInsight in September 2006 identified PCE concentrations ranging from 550 to 800 micrograms per cubic meter ($\mu g/m^3$), and TCE concentrations ranging from 16 to 150 $\mu g/m^3$. In accordance with the MassDEP Fact Sheet "*TCE Toxicity Information: Implications for Chronic and Shorter-Term Exposure*," dated March 27, 2014, the pre-EPMM concentrations in the building would pose an IH even over a short time period, such as a matter of days. However, GEI performed indoor air sampling during an unscheduled SSDS/SVE system shutdown in March 2015. The March 2015 indoor air concentrations did not pose an IH, and TCE was not detected during the March 2015 indoor air sampling. Based on system monitoring logs, the system was likely down for slightly less than 1 month during the March 2015 shut down. This information indicates that an IH would not be present during a minor shut down of the 50 Tufts Street system. Because the building is currently occupied, sampling cannot be conducted after the system has been shut down for a full 60 days or longer, so the maximum duration for a system shutdown that might pose an IH is not known now.

GEI will continue to operate the AEPMM at 50 Tufts Street.

9. Monitored Natural Attenuation

9.1 MNA Program Objectives

MNA is part of the remedial strategy to reach a Permanent Solution for the Site. GEI has implemented an MNA program to confirm on-going natural attenuation is occurring at the Site. The MNA program is described in the MNA OMM Plan presented in the Phase IV RIP. The primary elements of the MNA program include:

- Plume Stability Monitoring: A groundwater sampling plan to monitor overburden and bedrock groundwater plume concentrations through time to confirm that the groundwater plumes are stable, and that overall groundwater concentrations of chlorinated VOCs are not increasing.
- Natural Attenuation Evaluation: An evaluation of overburden and bedrock groundwater plume concentrations through time for indications of the presence and rate of natural attenuation processes.

9.2 MNA Activities

GEI conducted the following MNA activities during the reporting period:

- Groundwater Level Measurements: GEI measured groundwater levels at monitoring wells shown in Table 9-1.
- Groundwater Sampling: GEI collected groundwater samples from 4 monitoring wells in November 2022 and submitted them for chemical testing for VOCs by EPA Method 8260B. The sampling locations are shown in Fig. 4-1, the chemical testing results are shown in Table 4-2, and the laboratory data reports are in Appendix D.

GEI evaluated the groundwater chemical testing results collected during MNA activities to update and supplement the plume stability monitoring and natural attenuation evaluation, as presented in the Phase II CSA / Phase III RAP report. During this reporting period, semi-annual groundwater sampling was conducted by GEI at 18 monitoring wells shown in Fig. 4-1.

Based on an analysis of the Mann-Kendall statistical trend test results, which incorporates the additional groundwater testing data, the PCE, TCE, and TCA groundwater plumes continue to be stable.

GEI has been monitoring concentration fluctuations in groundwater PCE concentrations in monitoring wells MW122 and MW112A, and TCE concentrations in monitoring wells MW118D and MW121D. The concentrations increased slightly in MW121D, MW112A and MW118D, and decreased slightly in MW122, during the last reporting period. These results are within a range of fluctuation that is consistent with continuing plume stability, particularly when considered in context with prior groundwater results from all monitoring wells. GEI will perform additional groundwater sampling of these monitoring wells in spring 2023.

10. Remedial Monitoring Report No. 38

Remedial Monitoring Report No. 38, documenting OMM activities for active remedial systems at the Site, is presented in the BWSC-108A and 108B Transmittal Forms in Appendix A.

11. References

MassDEP (1994). "Off-gas Treatment of Point-Source Remedial Air Emissions," Massachusetts Department of Environmental Protection, Policy #WSC-94-150, dated 1994.

MassDEP (2016). "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy # WSC-16-435", dated October 14, 2016.

GEI (2006). IRA Status Report No. 1, 50 Tufts Street, Somerville, MA, RTNs 3-23246, 3-24358 and 3-24376, dated May 8, 2006.

GEI (2006). IRA Status Report No. 2 and Plan Modification No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 13, 2006.

GEI (2007). IRA Plan Modification No. 4, 50 Tufts Street, Somerville, MA, RTNs 3-23246 and 3-26114, dated February 22, 2007.

GEI (2007). IRA Plan Modification No. 1, 50 Tufts Street, Somerville, MA, RTN 3-26114, dated April 12, 2007.

GEI (2007). IRA Plan Modification No. 5, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 5, 2007.

GEI (2007). IRA Status Report No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246 & IRA Status Report No. 1 RTN 3-26114, dated May 10, 2007.

GEI (2007). Remedial Monitoring Report No. 1, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 2, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 4, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.

GEI (2007). IRA Plan Modification No. 7, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 11, 2007.

GEI (2007). IRA Plan Modification No. 8, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 11, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 5, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 19, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 6A, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 31, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 6B, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 7A, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 7B, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). IRA Status Report No. 4, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 9, 2007.

GEI (2008). IRA Status Report No. 5 and Remedial Monitoring Report (RMR) No. 8, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 12, 2008.

GEI (2008). Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP), 50 Tufts Street, Somerville, MA, RTN 3-23246, dated July 14, 2008.

GEI (2008). IRA Status Report No. 6 and Remedial Monitoring Report (RMR) No. 9, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 10, 2008.

GEI (2009). IRA Status Report No. 7 and Remedial Monitoring Report (RMR) No. 10, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.

GEI (2009). Phase IV Remedy Implementation Plan (RIP), 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.

GEI (2009). IRA Completion Report and Remedial Monitoring Report (RMR) No. 11, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.

GEI (2010). Phase IV Status Report No. 1 and Remedial Monitoring Report No. 12, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 8, 2009.

GEI (2010). Phase IV Status Report No. 2 and Remedial Monitoring Report No. 13, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 4, 2010.

GEI (2011). Phase IV Status Report No. 3 and Remedial Monitoring Report No. 14, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 11, 2011.

GEI (2011). Immediate Response Action Completion Report Amendment, RTN 3-23246, 50 Tufts Street Site, Somerville, Massachusetts, dated April 1, 2011.

GEI (2011). Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report. 50 Tufts Street, Somerville, Massachusetts, dated August 4, 2011.

GEI (2012). Phase V Status Report No. 1 and Remedial Monitoring Report No. 16, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 10, 2012.

GEI (2012). Phase V Status Report No. 2 and Remedial Monitoring Report No. 17, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 4, 2012.

GEI (2013). Phase V Status Report No. 3 and Remedial Monitoring Report No. 18, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 8, 2013.

GEI (2013). Phase V Status Report No. 4 and Remedial Monitoring Report No. 19, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2013.

GEI (2014). Phase V Status Report No. 5 and Remedial Monitoring Report No. 20, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 10, 2014.

GEI (2014). Phase V Status Report No. 6 and Remedial Monitoring Report No. 21, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 1, 2014.

GEI (2014). Release Abatement Measure Completion Report for 34 Knowlton Street, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 13, 2014.

GEI (2015). Phase V Status Report No. 7 and Remedial Monitoring Report No. 22, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2015.

GEI (2015). Phase V Status Report No. 8 and Remedial Monitoring Report No. 23, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 3, 2015.

GEI (2016). Phase V Status Report No. 9 and Remedial Monitoring Report No. 24, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2016.

GEI (2016). Phase V Status Report No. 10 and Remedial Monitoring Report No. 25, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 3, 2016.

GEI (2017). Phase V Status Report No. 11 and Remedial Monitoring Report No. 26, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2017.

GEI (2017). Phase V Status Report No. 12 and Remedial Monitoring Report No. 27, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2017.

GEI (2017). Phase V Status Report No. 13 and Remedial Monitoring Report No. 28, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2018.

GEI (2018). Phase V Status Report No. 14 and Remedial Monitoring Report No. 29, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2018.

GEI (2019). Phase V Status Report No. 15 and Remedial Monitoring Report No. 30, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 5, 2019.

GEI (2019). Phase V Status Report No. 16 and Remedial Monitoring Report No. 31, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2019.

GEI (2020). Phase V Status Report No. 17 and Remedial Monitoring Report No. 32, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 3, 2020.

GEI (2020). Phase V Status Report No. 18 and Remedial Monitoring Report No. 33, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2020.

GEI (2021). Phase V Status Report No. 19 and Remedial Monitoring Report No. 34, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 4, 2021.

GEI (2021). Phase V Status Report No. 20 and Remedial Monitoring Report No. 35, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2021.

GEI (2022). Phase V Status Report No. 21 and Remedial Monitoring Report No. 36, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2022.

GEI (2022). Phase V Status Report No. 22 and Remedial Monitoring Report No. 37, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2022.

GEI (2022). Release Abatement Measure Plan, 31 Tufts Street, Somerville, MA, RTN 3-23246 and 3-37468, dated July 25, 2022.

Kennedy/Jenks Consultants (2018). 120-Day Release Notification, 132 Washington Street, Somerville, MA, dated January 23, 2018.

TRC (2019). URAM Plan for Excavation and Dewatering, MBTA Green Line Extension, Somerville, MA, RTN 3-35528, dated April 2019.

TRC (2019). Release Abatement Measure Plan, 132 Washington Street, Somerville, MA, dated July 2019.

TRC (2019). Release Abatement Measure Modification and Status Report #7, MBTA Green Line Extension Project, Somerville Special Project Designation, Somerville, MA, RTN 3-30620, dated July 15, 2019.

TRC (2019). Utility-Related Abatement Measure Completion Report, MBTA Green Line Extension, Somerville, MA, RTN 3-35528, dated August 2019.

TRC (2020). Contained-In Determination for Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated January 16, 2020.

TRC (2020). Amendment #1 to Contained-In Determination for Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated March 18, 2020.

TRC (2020). Amendment #2 to Contained-In Determination for Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated March 18, 2020.

TRC (2020). Release Abatement Measure Status Report #1, 132 Washington Street, Somerville, MA, dated November 15, 2019.

TRC (2020). Release Abatement Measure Status Report #2, 132 Washington Street, Somerville, MA, dated May 15, 2020.

TRC (2020). Release Abatement Measure Status Report #3, 132 Washington Street, Somerville, MA, dated November 10, 2020.

TRC (2021). Contained-In Determination for Co-mingled Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated February 26, 2021.

TRC (2021). Contained-In Determination for Co-mingled Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated April 8, 2021.

TRC (2021). Contained-In Determination for Co-mingled Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated April 26, 2021.

TRC (2021). Release Abatement Measure Status Report #4, 132 Washington Street, Somerville, MA, dated May 10, 2021.

TRC (2021). Contained-In Determination for Co-mingled Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated May 26, 2021.

TRC (2021). Contained-In Determination for Co-mingled Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated June 30, 2021 (revised July 22, 2021).

TRC (2021). Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated July 23, 2021.

TRC (2021). Release Abatement Measure Status Report #5, 132 Washington Street, Somerville, MA, dated October 27, 2021.

TRC (2021). Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated November 15, 2021.

TRC (2021). Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated November 15, 2021.

TRC (2021). Contained-In Determination Sediment from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated December 17, 2021.

TRC (2022). Contained-In Determination Sediment from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated January 20, 2022.

TRC (2022). Contained-In Determination Sediment from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated March 3, 2022.

TRC (2022). Contained-In Determination Sediment from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated April 25, 2022.

TRC (2022). Release Abatement Measure Status Report #6, 132 Washington Street, Somerville, MA, dated May 6, 2022.

TRC (2022). Release Abatement Measure Status Report #7, 132 Washington Street, Somerville, MA, dated October 6, 2022.

TRC (2022). Contained-In Determination Sediment from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246), 132 Washington Street, Somerville, MA, dated November 17, 2022.

Weston & Sampson (2019). Downgradient Property Status Submittal, 132 Washington Street, Somerville, MA, RTN 3-34742, dated June 2019.

Tables

Table 4-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
5/23/2006	SH-MW1, SH-MW2, SH-MW3, GEO-1, GEO-2, MW-1, MW-	NA
5/24/2006	GEO-3, GEO-4, GEO-5, GEO-6, MW101, MW102 MW103,	Field Duplicate of GEO-3
5/25/2006	SH-4	NA
Groundwater Sampling		
8/7/2006	MW103	NA
Quarterly Groundwater Sampling		
10/4/2006	SH-MW1, SH-MW2, SH-MW3, GEO-3 GEO-4, GEO-5 and	Field Duplicate MW900 (GEO-3)
10/5/2006	GEO-1, GEO-2, MW101, MW102, MW103, MW104 and	NA
Quarterly Groundwater Sampling		
1/16/2007	SH-MW1, SH-MW2, GEO-3, GEO-4, GEO-5, GEO-6,	Field Duplicate MW900 (GEO-6)
1/17/2007	SH-MW3, MW-1, MW-3, GEO-1 and GEO-2	Field Duplicate MW800 (GEO-1)
1/18/2007	MW103, MW106, MW107, MW108, MW109, MW110 and	NA
Groundwater Sampling		
2/20/2007	MW113 and MW114	NA
3/23/2007	MW112A, MW115R AND MW116	NA
Quarterly Groundwater Sampling		
4/12/07	SHMW1, SHMW3, GEO1, GEO2 and MW113	NA
4/13/07	GEO3, MW101, MW102, MW103, MW104, MW106, MW107,	Field Duplicate MW900 (MW101)
4/16/07	SHMW2, GEO4, GEO5, GEO6, MW105, MW108, MW109,	Field Duplicate MW901 (GEO6)
5/23/07	MWCS1	NA
Quarterly Groundwater Sampling		
7/18/2007	MW102, MW107, MW108, MW11, MW112A, MW113, MW114, MW115R, M2116 and MW117S	Sample from MW102 was used for MS/MSD Field Duplicate MW900 (MW113) Field Duplicate MW901 (MW116)
7/19/2007	SHMW2, MW104, MW105, MW106, MW117T, MW117D,	NA
7/20/2007	MW118S, MW118T and MW118D	NA
Groundwater Sampling		
8/22/07	MW119S, MW119T, MW120S and MW120D	NA
8/30/07	MW118S, MW118T and MW118D	NA
Quarterly Groundwater Sampling		
10/10/2007	MW102, MW105, MW106, MW107, MW108, MW111, MW112A, MW113, MW114, MW115	Sample from MW102 was used for MS/MSD Field Duplicate MW900 (MW113)
10/11/2007	MW117T, MW117D, MW118S, MW118T, MW118D	NA
10/12/2007	MW116, MW119S, MW119T, MW120S, MW120D, MW201,	Field Duplicate MW901 (MW116)
10/15/2007	MW104, MW117S	NA
10/22/2007	MW121S, MW121D	NA

General Notes:

1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, and April 2022 were also submitted for natural attenuation parameter testing.

Table 4-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
1/9/2008	MW105, MW115	NA
1/10/2008	MW102, MW106, MW107, MW108, MW111, MW112A	Sample from MW102 was used for MS/MSD
1/11/2008	MW104, MW113, MW114, MW116, MW117S, MW118S, MW201, MW202	Field Duplicate MW900 (MW113) Field Duplicate MW901 (MW116)
1/15/2008	MW117T, MW117D, MW118T, MW119S, MW120S,	NA
1/16/2008	MW118D, MW119T	NA
1/17/2008	MW120D	NA
Groundwater Sampling		
1/30/2008	MW122	NA
Quarterly Groundwater Sampling		
4/15/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203	Field duplicate MW113 (MW900) Field duplicate MW116 (MW901)
4/16/2008	MW117S, MW117T, MW117D, MW118T, MW118D,	NA
4/17/2008	MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S,	Sample from MW102 was used for MS/MSD
4/18/2008	MW105	NA
Quarterly Groundwater Sampling		
7/14/2008	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
7/15/2008	GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D, MW202	Sample from MW104 was used for MS/MSD
7/16/2008	MW116, MW117S, MW117T, MW117D, MW118D	NA
Quarterly Groundwater Sampling		
10/21/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3	Sample from MW104 was used for MS/MSD
10/22/2008	MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Field duplicate MW112A (MW901) Field duplicate MW121D (MW900)
Quarterly Groundwater Sampling		
4/15/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203	Field duplicate MW113 (MW900) Field duplicate MW116 (MW901)
4/16/2008	MW117S, MW117T, MW117D, MW118T, MW118D,	NA
4/17/2008	MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S,	Sample from MW102 was used for MS/MSD
4/18/2008	MW105	NA
Quarterly Groundwater Sampling		
7/14/2008	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
7/15/2008	GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D, MW202	Sample from MW104 was used for MS/MSD
7/16/2008	MW116, MW117S, MW117T, MW117D, MW118D	NA
Quarterly Groundwater Sampling		
10/21/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3	Sample from MW104 was used for MS/MSD
10/22/2008	MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Field duplicate MW112A (MW901) Field duplicate MW121D (MW900)

General Notes:

1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, and April 2022 were also submitted for natural attenuation parameter testing.

Table 4-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
1/12/2009	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
1/13/2009	GEO-1, GEO-2, MW117S, MW117T, MW117D, MW119S,	NA
1/14/2009	MW104, MW-3, MW116, MW118S, MW118T, MW118D	Sample from MW104 was used for MS/MSD
Quarterly Groundwater Sampling		
4/13/2009	GEO-1, GEO-2, MW105, MW112A, MW119S, MW119T, MW121S, MW121D, MW122	Field duplicate MW121D (MW900) Field duplicate MW112A (MW901)
4/14/2009	MW-3, MW104, MW117S, MW117T, MW117D, MW118T,	NA
4/15/2009	MW102, MW116, MW118S	NA
Quarterly Groundwater Sampling		
7/14/2009	MW105, MW112A, MW116, MW118T, MW121S, MW121D, MW202	Field duplicate MW121D (MW900) Field duplicate MW112A (MW901)
7/15/2009	GEO-1, GEO-2, MW-3, MW104,MW117S, MW117T, MS117D, MW118S, MW118D, MW119S, MW119T,	Sample from MW104 was used for MS/MSD
Quarterly Groundwater Sampling		
10/14/2009	GEO-1, GEO-2, MW104, MW105, MW112A, MW116, MW117S, MW117D, MW118S, MW118D, MW121S,	Field duplicate MW112A (MW900) Field duplicate MW118D (MW901)
10/15/2009	MW119T, MW119S, MW120S, MW120D, MW118T	Sample from MW104 was used for MS/MSD
10/16/2009	MW117T, MW3	
Annual Groundwater Sampling		
4/12/2010	MW104, MW105, MW112A, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202	Field duplicate MW112A (MW900) Sample from MW104 was used for MS/MSD
4/13/2010	GEO-1, GEO-2, SH-MW3, MW116, MW117S, MW117T, MW117D, MW119S, MW119T, MW120S, MW120D	Field duplicate MW116 (MW901)
Semi-Annual Groundwater Sampling		
10/27/2010	MW112A, MW122	NA
Annual Groundwater Sampling		
4/20/2011	MW105, MW112A, MW117D, MW118S, MW118T, MW118D,	Field duplicate MW112A (MW900)
4/21/2011	GEO-2, SH-MW3, MW104, MW116, MW117S, MW117T	Field duplicate MW116 (MW901) Sample from MW104 was used for MS/MSD
4/22/2011	GEO-1, MW119S, MW119D, MW120S, MW120D, MW202	
Semi-Annual Groundwater Sampling		
11/16/2011	MW112A, MW122	NA
Annual Groundwater Sampling		
4/16/2012	SH-MW-3, MW112A, MW117S, MW117T, MW117D, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D	Field duplicate MW112A (MW900)
4/17/2012	GEO-1, MW104, MW105, MW116, MW118T, MW122, MW202	Field duplicate MW116 (MW901) Sample from MW104 was used for MS/MSD

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3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, and April 2022 were also submitted for natural attenuation parameter testing.

Table 4-1. Summary of Groundwater Sampling Activities
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50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Semi-Annual Groundwater Sampling		
11/12/2012	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/23/2013	SH-MW-3, MW105, MW117T, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, MW202	NA
4/24/2013	GEO-1, MW104, MW112A, MW116, MW117S, MW117D, MW118S, MW118T, MW118D	Field duplicate MW116 (MW900) Field duplicate MW112A (MW901) Sample from MW104 was used for MS/MSD
5/1/2013	GEO-2	
Semi-Annual Groundwater Sampling		
11/18/2013	MW112A, MW118D, MW121D, MW122	NA
Kleinfelder Groundwater Sampling		
2/6/2014	KE-114-140206, KE-115-140206, KE-116-140206, KE-117-140206, MW-SR-140206, WashSW-140206	Sample from WashSW-140206 was a grab sample from the base of an open excavation.
4/8/2014	KE-202D, KE-202S	NA
4/9/2014	KE-117	NA
4/14/2014	KE-204, KE-206, KE-208	NA
4/15/2014	KE-205, KE-207, KE-209, KE-210	NA
Annual Groundwater Sampling		
4/30/2014	MW104, MW121S, MW121D, MW122, SH-MW-3, GEO-1, GEO-2	Sample from MW104 was used for MS/MSD
5/1/2014	MW117S, MW117T, MW117D, MW118S, MW118D, MW118T, MW119S, MW119T, MW120S, MW120D, MW116	Field duplicate MW116 (MW900)
6/11/2014	MW112A	NA
Semi-Annual Groundwater Sampling		
11/18/2014	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/2/2015	MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118D, MW119S, MW119T, MW121S, MW121D, MW122, SH-MW-3, GEO-1, GEO-2	Sample from MW104 was used for MS/MSD Field duplicate MW116 (MW901)
4/3/2015	MW118T, MW120S, MW120D	
4/17/2015	MW112A	Field duplicate MW112A (MW900)
Semi-Annual Groundwater Sampling		
11/19/2015	MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/28/2016	MW1112A, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, GEO-1	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/29/2016	MW104, MW116, MW202, GEO-2	Sample from MW104 was used for MS/MSD

General Notes:

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3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, and April 2022 were also submitted for natural attenuation parameter testing.

Table 4-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Semi-Annual Groundwater Sampling		
11/21/2016	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/17/2017	MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202, GEO-1	Field duplicate MW116 (MW900) Field duplicate MW112A (MW901)
4/18/2017	MW112A, MW119S, MW119T, MW120S, MW120D, GEO-2	Sample from MW104 was used for MS/MSD
4/28/2017	SH-MW-2, MW104	
Semi-Annual Groundwater Sampling		
11/8/2017	MW118D, MW121D, MW122	
11/10/2017	MW112A	NA
Annual Groundwater Sampling		
4/3/2018	MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW119S, MW119T, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/4/2018	GEO-1, GEO-2, MW104, MW112A, MW116, MW120S, MW120D, MW202, SH-MW-2	Sample from MW104 was used for MS/MSD
Semi-Annual Groundwater Sampling		
11/15/2018	MW 112A MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/15/2019	MW112A, MW117S, MW117T, MW117D, MW118S, MW118D, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/16/2019	MW116, MW118T, MW119S, MW119T, MW120S, MW120D, MW202, SHMW2, GEO-1, GEO-2	Sample from SHMW2 was used for MS/MSD
Semi-Annual Groundwater Sampling		
11/23/2019	MW 112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/16/2020	MW112A, MW117S, MW117T, MW117D, MW118S, MW118D, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/17/2020	MW116, MW118T, MW119S, MW119T, MW120S, MW120D, MW202, GEO-1, GEO-2	Sample from MW202 was used for MS/MSD
Semi-Annual Groundwater Sampling		NA
11/18/2020	MW 112A, MW118D, MW121D, MW122	
Annual Groundwater Sampling		
4/13/2021	MW112A, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/14/2021	MW116, MW119S, MW119T, MW120S, MW120D, MW202, GEO-1, GEO-2	Sample from GEO-1 was used for MS/MSD
Semi-Annual Groundwater Sampling		NA
11/30/2021	MW 112A, MW118D, MW121D, MW122	
Annual Groundwater Sampling		
4/12/2022	MW118S, MW118T, MW118D, MW117T, MW117S, MW117D	Field duplicate MW116 (MW900)
4/13/2022	MW120S, MW120D, MW119S, MW119T, MW121S, MW121D, GEO-1, MW122, MW202, MW116	Field duplicate GEO-2 (MW901) Sample from GEO-1 was used for MS/MSD
4/14/2022	GEO-2 and MW112A	
Semi-Annual Groundwater Sampling		NA
11/29/2022	MW 112A, MW118D, MW121D, MW122	

General Notes:

1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017, April 2018, April 2019, April 2020, April 2021, and April 2022 were also submitted for natural attenuation parameter testing.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-1																									GEO-2									
Sample Name:			GEO-1	GEO-1	GEO-1	GEO-1	MW800 (FD)	GEO1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-2	GEO-2	GEO-2	GEO-2	GEO2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			8/16/04	5/23/06	10/5/06	1/17/07	1/17/07	4/12/07	4/15/08	7/15/08	10/21/08	1/13/09	4/13/09	7/15/09	10/14/09	4/13/10	4/22/11	4/17/12	4/24/13	4/30/14	4/2/15	4/28/16	4/17/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	8/16/04	5/23/06	10/5/06	1/17/07	4/12/07	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09
Collected By:			GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																																					
Acetone	8260	µg/l	< 400	< 5.0	< 5.0	< 5.0	< 5.0	9.7	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<50	<10	<10	<10	<5.0	<5.0	487	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Benzene			< 20	< 0.50	< 0.50	< 0.50	< 0.50	0.27 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5	<0.50	<0.50	<1.0	<0.50	<0.50	< 5.0	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<50	<10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	< 25	< 5.0	< 5.0	4.5 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 20	3.6	1.4	2.3	2.3	5.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 20	0.76 J	0.86 J	0.76 J	0.84 J	0.77 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 20	< 1.0	< 1.0	0.60 J	0.61 J	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	0.62 J	< 1.0	0.60 J
Chloromethane			< 40	< 2.0	3.7	< 2.0	1.8 J	6.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 20	4.3	2.9	5.4	5.6	10.6	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	2.2	2.0	< 5.0	2.5	1.1	< 1.0	0.29 J	< 1.0	
1,2-Dichloroethane			< 20	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	13.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1,1-Dichloroethylene			39.8	989	1330 E	247	241	8980	3.0	26.2	1.4	1.3	1.7	< 1.0	2.0	< 1.0	7.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	23.2	14.2	26.3	25.2	11.5	13.4	8.4	7.0	17.0	6.5
cis-1,2-Dichloroethylene			< 20	4.3	2.3	3.3	< 1.0	8.7	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	1.6	9.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0	
trans-1,2-Dichloroethylene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			NT	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	367	< 25	< 50	< 25 K-	< 25	< 100	<630	<130	<130	<500	<250	<250	NT	< 25	< 25 R	< 130	< 25	< 25	< 25	< 25 J+	< 25	< 25
Ethylbenzene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	0.41 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	3.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	<10	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 20	64.2	5.3 J+	2.5	2.7	6.9 J+	7.9	< 1.0	< 1.0	0.26 J	1.1	< 1.0	4.8	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	37.6	79.9	12.8 J+	9.8	16.5	< 1.0	5.9	0.45 J	< 1.0	0.29 J
Methylene chloride			< 200	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	<4.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	8.3 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	<4.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 20	5.7	3.0 J	5.7	5.8	15.6	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			1880	18600	19500	17300	18000	48500	135	268	115	76.1	64.3	71.5	698	79.2	2580	171	85.1	252	162	134	1340	70.9	32.9	240	48	25	285	131	693	1420	120	115	140	110	263 G	202
Tetrahydrofuran			NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<50	<10	<10	<4.0	<2.0	<2.0	NT	< 10	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 20	1.2	0.72 J	1.1	0.99 J	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	3.4 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1720	19100	9620 J+	13300	14200	42500 J+	29.5	217	8.5	9.2	10.0	5.9	16.6 J+	7.0	12.2	3.7	2.1	2.3	3.0	1.3	9.1	<1.0	<1.0	5.8	<1.0	<1.0	490	125	376	867	147 J+	70.5	25.5	22.5	110	29.7
1,1,2-Trichloroethane			< 20	< 1.0	< 1.0	0.94 J	0.99 J	3.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			898	10000	5530	9090	9660	30600	18.9	70.6	11.0	8.9	8.0	10.1	31.2	8.2	35.6	6.5	4.8	5.9	7.1	5.4	2.2 J	3.60	1.90	3.0	1.7	2.00	60	27.3	170	602	36.0	22.8	20.9	19.7	99.7	31.7
Vinyl chloride			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 40	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<4.0	<2.0	<2.0	< 10	< 1.0	< 1.0	11.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	<2.0	<1.0	<1.0	ND	< 1.0	< 1.0	14.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																															< 10							
Iron																															< 100							
Manganese																															NT							
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																													< 10							
Ethane	8015	µg/l																													< 10							
Ethylene	8015	µg/l																													< 10							
Alkalinity	E310.1	µg/l																													104000							
Chloride	E325.3	µg/l																													1310000							
Chlorine, Total Residual	E330.4	µg/l																													NT							
Iron, Ferrous	3500FE B	µg/l																													NT							
Nitrate & Nitrite as N	E353.2	µg/l																													7000							
Nitrogen, Nitrate	E353.2	µg/l																													7000							
Nitrogen, Nitrite	E354.1	µg/l																													< 10							
Sodium	6010C	µg/l																													NT							
Sulfate	E375.4	µg/l																													88000							
Sulfide	E376.1	µg/l																													< 2000							
Surfactants	E425.1	µg/l																													< 100							
Total Organic Carbon	E415.1	µg/l																													< 1000							

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-2																			GEO-3							GEO-4					
Sample Name:			GEO-2 5 to 20 10/14/09	GEO-2 5 to 20 4/13/10	GEO-2 5 to 20 4/21/11	GEO-2 5 to 20 5/1/13	GEO-2 5 to 20 4/30/14	GEO-2 5 to 20 4/2/15	GEO-2 5 to 20 4/29/16	MW901 (FD) 5 to 20 4/29/16	GEO-2 5 to 20 4/18/17	GEO-2 5 to 20 4/4/18	MW901 (FD) 5 to 20 4/4/2018	GEO-2 5 to 20 4/16/2019	MW901 (FD) 5 to 20 4/16/2019	GEO-2 5 to 20 4/17/2020	MW901 (FD) 5 to 20 4/17/2020	GEO-2 5 to 20 4/14/2021	MW901 5 to 20 4/14/2021	GEO-2 5 to 20 4/14/2022	MW901 5 to 20 4/14/2022	GEO-3 5 to 20 8/16/04	GEO-3 5 to 20 5/24/06	MW900 (FD) 5 to 20 5/24/06	GEO-3 5 to 20 10/4/06	MW900 (FD) 5 to 20 10/4/06	GEO-3 5 to 20 1/16/07	GEO3 5 to 20 4/13/07	GEO-4 4 to 19 8/16/04	GEO-4 4 to 19 5/24/06	GEO-4 4 to 19 10/4/06	GEO-4 4 to 19 1/16/07	GEO4 4 to 19 4/16/07
Well Screen Interval (ft bgs):																																		
Sample Date:																																		
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 5.0	< 5.0	< 100	< 50
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 100	< 0.50	< 0.50	< 10	< 5.0
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 50
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20
Chloroform			0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.56 J	0.76 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	2.5	< 20	< 10
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	11.6	11.6	2.6	< 1.0	< 100	2.7	7.1	< 20	< 10
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
1,1-Dichloroethylene			10.8	13.8	3.7	7.8	3.8	3.1	4.3	4.9	1.5	1.1	1.1	<1.0	<1.0	2.3	2.6	1.7	1.8	2.6	2.3	108	< 1.0	< 1.0	59.3	59.1	11.5	1.4	< 100	6.1	17.8	< 20	< 10
cis-1,2-Dichloroethylene			< 1.0	3.1	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	2.8	2.6	1.2	< 1.0	< 100	6.3	16.7	< 20	5.5 J
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 100	< 2.0	< 2.0	< 40	< 20
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25 K-	< 25	< 25	< 25	<130	<130	<130	<130	<130	<250	<250	<250	<250	<250	<250	NT	< 25	< 25	< 25 R	< 25 R	< 25	< 25	NT	< 25	< 25 R	< 5.0	< 250
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50
Methyl tert-butyl ether			0.56 J	< 1.0	< 1.0	4.5	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 1.0	< 1.0	1.2 J+	1.1 J+	< 1.0	< 1.0	< 100	< 1.0	1.5 J+	< 20	< 10
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 2.0	< 2.0	< 5.0	< 2.0	< 5.0	< 2.0	< 1000	< 2.0	< 2.0	< 40	< 20
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 40	< 20
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	0.84 J	< 100	< 50
Tetrachloroethylene (PCE)			167	480	66.4	140	119	76.3	147	145	50.7	48.5	45.4	26.3	25.6	120	130	86	86	96	84	4020	162	157	2720	2340	529	93.2	12900	6690	24100	16700	8240
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	< 10	<10	<10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 200	< 100
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	1.8	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
1,1,1-Trichloroethane (TCA)			37.5 J+	61.9	4.3	16.0	15.5	11.4	18.4	20.4	5.2	3.7	3.6	1.1	1.1	9.2	9.5	11	11	17	16	204	4.0	4.4	78.2 J+	77.2 J+	16.2	< 1.0	1170	113	321 J+	113	70.9
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
Trichloroethylene (TCE)			33.4	103	14.7	14.3	12.2	9.9	12.7	12.8	7.1	6.1	6.0	4.4	4.2	6.1	6.4	3.8	3.8	4.2	4.0	507	14.4	14.1	209	207	70.2	10.0	720	86.8	235	129	74.8
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 1.0	< 1.0	< 20	< 10
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	< 1.0	< 1.0	< 20	< 10
Metals (Total)	6010B	µg/l	NT							NT			NT		NT						NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic				NT	NT	NT	NT	NT	NT		NT	NT		NT		NT		NT		NT													
Iron				< 100 J+	< 100	< 100	NT	NT	NT		NT	NT		NT		NT		NT		NT													
Manganese				< 15	< 15	< 15	< 15	< 15	< 15		<15	<15		<15		<10		<10		<10													
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																		
Others			NT							NT			NT		NT						NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l		1.58	< 0.30	< 0.30	< 10	< 10	< 10		<10	<0.11		0.14		<1.0		<2.00		<2.00													
Ethane	8015	µg/l		< 0.10	< 0.10	< 0.10	< 10	< 10	< 10		<10	<0.23		<0.23		<0.5		<0.500		<0.500													
Ethylene	8015	µg/l		< 0.10	< 0.10	< 0.10	< 10	< 10	< 10		<10	<0.31		<0.31		<0.5		<0.500		<0.500													
Alkalinity	E310.1	µg/l		44100	50400	64600	69000	48400	50300		34000	32800		221000		28500		28,300		43,400													
Chloride	E325.3	µg/l		165000	53700	252000	175000	220000	290000		287000	254000		198000		420000		270,000		38,000													
Chlorine, Total Residual	E330.4	µg/l		< 50 A	< 50	< 50	< 50 A	< 50 A				1130		<100		<20		<20		<20													
Iron, Ferrous	3500FE B	µg/l		NT	NT	NT	< 100	< 100	< 100		<100	<200		<200		<500		<500		<500													
Nitrate & Nitrite as N	E353.2	µg/l		6700	4400	3300	1700	1600	1500		1700	2300		1700		630		1,400		770													
Nitrogen, Nitrate	E353.2	µg/l		6700	4400	3300	1700	1600	1500		1700	2300		1700		629		1,320		755													
Nitrogen, Nitrite	E354.1	µg/l		< 10	< 10	< 10	< 10	< 10	< 10		<10	<10		<10		<300		<300		564													
Sodium	6010C	µg/l		NT	NT	NT	NT	NT	NT		NT	NT		NT		NT		NT		NT													
Sulfate	E375.4	µg/l		117000	105000	67800	38900	27500	30900		21600	19000		15900		<10000		<10,000		<10,000													
Sulfide	E376.1	µg/l		< 2000	< 2000	< 2000	< 2000	< 2000				<2000		<2000		<100		<100		<100													
Surfactants	E425.1	µg/l		< 100	< 100	< 100	< 100	< 100	< 100		<100	<100		<100		<50		<50		<50													
Total Organic Carbon	E415.1	µg/l		2400	4600	1700	1000	<5000	< 1000		<1000	1000		<1000		<500		<500		570													

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-5					GEO-6							MW-1					MW101					MW102							MW103					
Sample Name:			GEO-5	GEO-5	GEO-5	GEO-5	GEO5	GEO-6	GEO-6	GEO-6	GEO-6	MW900 (FD	GEO6	MW901 (FD)	MW-1	MW-1	MW-1	MW-1	MW1	MW-101	MW101	MW101	MW101	MW900	MW-102	MW102	MW102	MW102	MW102	MW102	MW102	MW-103	MW103	MW103	MW-103	MW103	MW103
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	Unknown	Unknown	Unknown	Unknown	Unknown	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	6 to 16	6 to 16	6 to 16	6 to 16	7/18/07	10/10/07	1/10/08	4/17/08	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16
Sample Date:			8/16/04	5/24/06	10/4/06	1/16/07	4/16/07	8/16/04	5/24/06	10/4/06	1/16/07	1/16/07	4/16/07	4/16/07	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	5/24/06	10/5/06	1/17/07	4/13/07	4/13/07	5/24/06	10/5/06	1/16/07	4/13/07					5/24/06	8/7/06	10/5/06	1/16/07	1/18/07	4/13/07
Collected By:			GeoInsight	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	SHA	GeoInsigh	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI					GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																																					
Acetone	8260	µg/l	< 2000	< 5.0	< 5.0	< 250	< 5.0	< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 40000	40.0	36.1	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Benzene			< 100	< 0.50	< 0.50	< 25	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 5.000	< 2000	2.0	< 0.50	< 250	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5
Bromodichloromethane			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
2-Butanone (MEK)			< 1000	< 5.0	< 5.0	< 250	< 5.0	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 4000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	0.81 J	< 5.0	< 10	< 5.0	< 5.000	< 10000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Carbon tetrachloride			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	19.0	22.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Chlorobenzene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	1.1	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Chloroethane			< 200	< 2.0	< 2.0	< 100	< 2.0	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 10000	< 4000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
Chloroform			< 100	< 1.0	0.62 J	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	3.7	1.6	< 500	1.8	< 1.0	< 1.0	< 1.0	1.8	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	0.65 J	0.62 J	< 5.0
Chloromethane			< 200	< 2.0	< 2.0	< 100	< 2.0	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 25000	< 4000	< 2.0	14.6	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
1,4-Dichlorobenzene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 25000	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
1,1-Dichloroethane			< 100	3.0	9.7	< 50	< 1.0	< 10	2.0	4.4	1.7	1.6	0.92 J	1.1	< 7500	< 2000	59.8	59.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	1.6	< 1.0	0.88 J	< 1.0	< 1.0	0.42 J	2.1	4.1	0.51 J	27.2	3.7	13.0	11.5	10.1	7.9
1,2-Dichloroethane			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	4.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	3.9 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
1,1-Dichloroethylene			< 100	8.9	32.7	< 50	< 1.0	< 10	4.6	11.0	4.4	3.2	2.8	3.8	< 5.00	< 2000	11500	1260	2290	8.7	21.1	14.1	< 1.0	4.6 G	6.3	50.2	30	< 1.0	23.6	39.7	51.8	22.2 C+	13.4	2.0	6.5	4.3	4.3	8.0
cis-1,2-Dichloroethylene			< 100	12.5	35.2	< 50	< 1.0	14.8	9.1	15.4	7.7	6.9	5.3	6.3	< 5.00	< 2000	24.3	7.7	< 500	< 1.0	< 1.0	1.3	< 1.0	2.1 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	3.0	2.5	< 1.0	< 1.0	< 5.0
trans-1,2-Dichloroethylene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
1,2-Dichloropropane			< 100	< 2.0	< 2.0	< 100	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 18000	< 2000	4.5	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
1,4-Dioxane			NT	< 25	< 25 R	< 1300	< 25	NT	< 25	< 25 R	< 25	< 25	< 5.0	< 25	NT	NT	< 25 R	< 25	< 13000	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25 R	< 25	< 25	NT	< 50	< 25	< 25	< 25	< 25	< 25	< 25	< 130
Ethylbenzene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	2.8	4.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
2-Hexanone			< 1000	< 5.0	< 5.0	< 250	< 5.0	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 20000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
4-Isopropyltoluene			< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.00	< 2000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Methyl tert-butyl ether			< 100	1.3	3.3 J+	< 50	< 1.0	< 10	1.3	1.9 J+	1.2	1.2	0.80 J	0.81 J	< 10000	< 2000	< 1.0 J+	< 1.0	< 500	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	4.5 J+	2.7	< 1.0	NT	17.3	24.2	1.7 C+	< 1.0	< 1.0	0.65 J J+	< 1.0	< 1.0	< 5.0
Methylene chloride			< 1000	< 2.0	< 2.0	< 100	< 2.0	< 100	< 2.0	< 2.0	< 2.0	1.3 J	2.5 J	< 2.0	< 5.000	< 20000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	4.3	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
Naphthalene			< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 2000	< 5.0	2.4 J	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 100	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	NT	NT	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10
1,1,1,2-Tetrachloroethane			< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.00	< 2000	38.1	22.8	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 25
Tetrachloroethylene (PCE)			14400	2440	12900	254 F+	17.9	782	675	1980	632	594 F+	618	497	52000	24200	34400	74900	49600	163	171	192	94.0	90.7	200	898	692	20.3	524	685	606	438 C+	2600	592	1510	1200 F+	1250 F-	1510
Tetrahydrofuran			NT	< 10	< 10	< 500	< 10	NT	< 10	< 10	< 10	< 10	< 20	< 10	NT	NT	< 10	< 10	< 5000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 50
Toluene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	19.6	15.3	< 500	< 1.0	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
1,1,1-Trichloroethane (TCA)			646	246	652	< 50	< 1.0	27.8	42.5	77.2 J+	33.7	25.3	21.2	26.8	290000	112000	255000	135000	151000	110	146	131	50.5 J+	43.0 J+	< 1.0	65.7 J+	32.6	< 1.0	26.3	69.8	121	21.9 C+	34.0	4.4	14.4 J+	17.6	21.0	< 5.0
1,1,2-Trichloroethane			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	85.8	16.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Trichloroethylene (TCE)			404	146	446	< 50	< 1.0	122	78.8	131	75.3	56.5	55.5	70.5	220000	128000	175000	120000	103000	50.5	30.2	38.4	47.2	45.7	15.6	89.1	57.0	2.0	46.1	61.0	65.3	35.6 C+	109	24.0	60.4	37.0	38.0	58.7
Vinyl chloride			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 10000	< 2000	< 1.0	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
m,p-Xylene			< 200	< 1.0	< 1.0	< 50	< 1.0	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 4000	4.8	5.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
o-Xylene			< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	9.2	13.8	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Total Xylene			ND	< 1.0	< 1.0	< 50	< 1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	ND	ND	14.0	19.7	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	< 10	< 10	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 10	NT
Arsenic											< 100	< 100																								< 100	
Iron											NT	NT																								NT	
Manganese																																					
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																					
Others			NT	NT	NT	NT	NT	NT	NT	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT
Methane	8015	µg/l									< 10	< 10																								< 10	
Ethane	8015	µg/l									< 10	< 10																								< 10	
Ethylene	8015	µg/l									< 10	< 10																								< 10	
Alkalinity	E310.1	µg/l									134000	133000																								53500	
Chloride	E325.3	µg/l									825000	825000																								675000	
Chlorine, Total Residual	E330.4	µg/l									NT	NT																								NT	
Iron, Ferrous	3500FE B	µg/l									NT	NT																								NT	
Nitrate & Nitrite as N	E353.2	µg/l									3500	3500																								8900	
Nitrogen, Nitrate	E353.2	µg/l									3500	3500																								8900	
Nitrogen, Nitrite	E354.1	µg/l									< 10	< 10																								16	
Sodium	6010C	µg/l									NT	NT																								NT	
Sulfate	E375.4	µg/l									45800	45500																								65700	
Sulfide	E376.1	µg/l									< 2000	< 2000																								< 2000	
Surfactants	E425.1	µg/l									< 100	< 100																								< 100	
Total Organic Carbon	E415.1	µg/l									< 1000	< 1000																								1700	

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW104																						MW105											
Sample Name:			MW-104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105
Well Screen Interval (ft bgs):			5 to 15	5 to 15	6 to 16	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29
Sample Date:			5/23/06	10/5/06	1/16/07	4/13/07	7/19/07	10/15/07	1/11/08	4/15/08	7/15/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	4/12/10	4/21/11	4/17/12	4/24/13	4/30/14	4/2/15	4/29/16	4/17/17	4/28/17	4/4/18	5/24/06	10/5/06	1/17/07	4/16/07	7/19/07	10/10/07	1/9/08	4/18/08	7/14/08	10/22/08	1/12/09	4/13/09
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																								NT													
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	4.0 J	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	9.0	4.8	< 10	< 10	< 10	< 10		<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			< 0.50	0.60	< 0.50	< 0.50	NT	0.43 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			2.7	10.3	6.1	4.7	6.9	5.6	2.3	< 2.0	3.9	5.9	< 2.0	< 2.0	2.8	4.2	< 2.0	< 2.0	2.6	1.9 J	< 2.0	< 2.0	< 2.0		<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			33.0	98.9	57.1	46.8	68.3	86.6	38.7	33.0	71.5	74.3	33.2	37.9	47.1	73.9	19.6	24.3	< 1.0	28.4	27.1	9.7	38.1		21.1	25.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			3.3	9.4	2.9	10	2.6	4.5	1.7	1.8	5.1	2.4	2.6	2.1	2.2	3.6	1.9	6.1	1.1	1.9	0.95 J	0.40 J	1.40		0.64 J	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			198	435	244	250	194	279	148	145	203	192 F-	189	236 F-	212	334	112	154	67.3	93.6	95.2	49.8	77.3		83.9	67.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			2.2	9.3	6.2	3.6	2.5	4.1	3.5	2.0	3.2	2.7	2.4	3.0	2.6	2.6	1.1	6.4	< 1.0	3.1	2.3	0.64 J	1.1		1.5	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25 F- K-	< 50	< 25 K-	< 25	< 25		<130	<130	< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	10.0 J+	1.0	0.93 J J+	NT	7.2	1.1	0.72 J	3.9	2.4	0.63 J	< 1.0	0.98 J	1.8	< 1.0	< 1.0	0.90 J	< 1.0	< 1.0	< 1.0	0.61 J		<1.0	<1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			60.4	160	29.3	39.6	31.2	49.3	12.1	22.4	16.8	22.8	22.6	19.3	22.0	16.9	14	14.8	11.9	9.7	10.1	10.7	6.5		15.1	10.7	7.8	0.69 J	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10		<10	<10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			21.0	138 J+	23.2	5.6 J+	28.0	89.8	12.5	10.8	42.9	26.1	13.3	11.8 F+	19.2	24.3 J+	4.4	5.1	11.4	4.3	5.1	2.8	8.6		4.1	3.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			63.4	110	49.1	51.4	40.4	< 1.0	27.0	34.9	37.1	38.2	44.8	53.7 F+	44.4	43.7	24.3	26.4	13.9	14.1	16.3	15.6	12.4		21.3	15	< 1.0	3.4	3.2	1.5	1.5	1.6	2.2	1.7	1.7	1.8	1.7	2.3
Vinyl chloride			23.7	36.4	47.4	40.4	38.2	68.0	26.4	29.9	41.8 F+	42.6	50.1	66.5	57.0	107.0	34.9	53.9	39.3	28.9	51.7	11.8	16.1		9.6	16.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT									NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																	NT	NT	NT	NT	NT	NT	NT	NT														
Iron																	2900 J+	11800	10700	15300	8970	NT	NT	NT														
Manganese																	1510	3000	2590	2860	1570	154	2440	1150														
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					9890																	
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT									NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l															159	184	724	252	185	<10	20.2	29.9		54.8												
Ethane	8015	µg/l															1.77	2.0	5.4	3.6	3.2 J	<10	< 10	<10		2												
Ethylene	8015	µg/l															0.87	1.1	11.6	4.92	3.8 J	<10	2.3 J	<10		1.6												
Alkalinity	E310.1	µg/l															338000	373000	464000	413000	393000	298000	319000	429000		336000												
Chloride	E325.3	µg/l															32500	189000	100000	247000	82500	74500	125000	33700		145000												
Chlorine, Total Residual	E330.4	µg/l															< 50 A	< 50	< 50 R	< 50 A F-	< 50 A	< 50 A				1700												
Iron, Ferrous	3500FE B	µg/l															NT	NT	NT	NT	4800	<100	4600	1200		2400												
Nitrate & Nitrite as N	E353.2	µg/l															120	320	200	280	150	390	< 110	<110		2600												
Nitrogen, Nitrate	E353.2	µg/l															120	320	200	280	150	390	< 100	<100		2600												
Nitrogen, Nitrite	E354.1	µg/l															< 10	< 10	< 10	< 10	< 10	<10	< 10	<10		<10												
Sodium	6010C	µg/l															NT	NT	NT	NT	46400	NT	NT	NT		NT												
Sulfate	E375.4	µg/l															41700	45300	29300	52400	104000	62800	232000	113000		139000												
Sulfide	E376.1	µg/l															< 2000	< 2000	< 2000	< 2000	< 2000	< 2000				<2000												
Surfactants	E425.1	µg/l															< 100	120	190	< 100	< 100	<100	110	<100		130												
Total Organic Carbon	E415.1	µg/l															5900	7400	9800	8500	7500	7000	8600	6600		8200												

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW105						MW106						MW107						MW108						MW109			MW110			MW111			MW111		
Sample Name:			MW105 19 to 29 7/14/09	MW105 19 to 29 10/14/09	MW105 19 to 29 4/12/10	MW105 19 to 29 4/20/11	MW105 19 to 29 4/17/12	MW105 19 to 29 4/23/13	MW106 9 to 19 1/18/07	MW106 9 to 19 4/13/07	MW106 9 to 19 7/19/07	MW106 9 to 19 10/10/07	MW106 9 to 19 1/10/08	MW106 9 to 19 4/17/08	MW107 2 to 12 1/18/07	MW107 2 to 12 4/13/07	MW107 2 to 12 7/18/07	MW107 2 to 12 10/10/07	MW107 2 to 12 1/10/08	MW107 2 to 12 4/17/08	MW108 2 to 12 1/18/07	MW108 2 to 12 4/16/07	MW108 2 to 12 7/18/07	MW108 2 to 12 10/10/07	MW108 2 to 12 1/10/08	MW108 2 to 12 4/17/08	MW109 3 to 13 1/18/07	MW109 3 to 13 4/16/07	MW109 3 to 13 4/17/08	MW110 3 to 13 1/18/07	MW110 3 to 13 4/17/07	MW110 3 to 13 5/23/07	MW111 4 to 14 1/18/07	MW111 4 to 14 4/16/07	MW111 4 to 14 7/18/07	MW111 4 to 14 10/10/07	MW111 4 to 14 1/10/08	MW111 4 to 14 4/17/08
Well Screen Interval (ft bgs):																																						
Sample Date:																																						
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																				
Volatile Organic Compounds (VOCs)																																						
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	69.9	< 5.0	9.2	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 5.0	< 13	NT	< 25	< 0.50	< 1.0
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	7.7	< 5.0	1.1 J	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.28 J	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	< 2.0	< 100	< 2.0	< 4.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	1.2	NT	0.56 J	0.39 J	1.7	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	1.2	< 2.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.5	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.6	4.3	0.52 J	< 1.0	2.1	3.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	30.9	15.7 J	16.8	19.1 J	5.6	4.3 C+
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10	< 25	0.43 J	< 50	< 1.0	< 2.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.4	6.3	3.4	3.9	4.1	1.5	3.2	3.7	< 1.0	< 1.0	1.3 G	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	17.6	< 25	10.5	< 50	4.1	3.7 C+
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	22.6	17.2 J	56.3	63.9	10.6	4.4 C+
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10	< 25	1.5	< 50	< 1.0	< 2.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25 K-	< 50	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	< 250	< 630	NT	< 1300	< 25	< 50
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	12.2	12.1	NT	252	78.0	4.9	< 1.0	< 1.0	NT	< 1.0	0.21 J	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.5	< 1.0	< 1.0	< 1.0	< 10	< 25	NT	< 50	0.45 J	< 2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	31.4 J	NT	< 100	< 2.0	< 4.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	2.2	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	1.0 F-	1.2	2.3	1.7	2.3	0.44 J	< 1.0 F-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 F-	< 1.0	< 1.0	0.60 J	< 1.0	< 1.0	178 F-	28.5	17.4	0.89 J F-	0.93 J	NT	13700 F-	7370	6340	8350	3100	1160 C+
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 100	< 250	NT	< 500	< 10	< 20
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	110	0.40 J	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	15.3	1.5 J+	6.4	11.3	14.9	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.77 J	0.97 J	0.31 J	< 1.0	< 1.0	NT	142	56.5	89.1	84.1	41.3	17.6 C+
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0
Trichloroethylene (TCE)			1.6	0.78 J	1.1	1.8	1.7	1.6	3.7	4.8	3.6	4.4	4.9	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.5	< 1.0	0.52 J	< 1.0	< 1.0	NT	150	84.4	120	125	42.1	19.9 C+
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	2.9	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic									< 10						< 10						< 10																	
Iron									319						6160						< 100									84000								
Manganese									NT						NT						NT									NT								
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT		NT		NT	NT	NT	NT	NT	NT
Methane	8015	µg/l							< 10						4.13 J						0.18 J									< 10		NT						
Ethane	8015	µg/l							< 10						< 10						< 10									< 10		NT						
Ethylene	8015	µg/l							< 10						< 10						< 10									< 10		NT						
Alkalinity	E310.1	µg/l							83100						174000						71100									122000		NT						
Chloride	E325.3	µg/l							1870000						100000						235000									142000		1010000						
Chlorine, Total Residual	E330.4	µg/l							NT						NT						NT									NT		< 50						
Iron, Ferrous	3500FE B	µg/l							NT						NT						NT									NT		NT						
Nitrate & Nitrite as N	E353.2	µg/l							12900						100						< 100									2400		NT						
Nitrogen, Nitrate	E353.2	µg/l							12800						< 110						< 110									2300		NT						
Nitrogen, Nitrite	E354.1	µg/l							83						< 10						< 10									54		NT						
Sodium	6010C	µg/l							NT						NT						NT									NT		NT						
Sulfate	E375.4	µg/l							86800						33400						28100									47700		NT						
Sulfide	E376.1	µg/l							< 2000						< 2000						< 2000									< 2000		NT						
Surfactants	E425.1	µg/l							< 100						150						< 100									< 100		NT						
Total Organic Carbon	E415.1	µg/l							1300						12200						1300									5700		NT						

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW112A														MW112A																	
Sample Name:			MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW112A	MW112A	MW900 (FD)
Well Screen Interval (ft bgs):			4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:			3/23/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	10/14/09	4/12/10	4/12/10	10/27/10	4/20/11	4/20/11	11/16/11	4/16/12	4/16/12	11/12/12	4/24/13	4/24/13	11/18/13	6/11/14	11/18/14	4/17/15	4/17/15
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 10	< 10	< 5.0	< 5.0 K-	< 5.0 K-	< 10 K-	< 20	< 20	< 10 K-	< 10 K-	< 10	< 10	< 10
Benzene			< 0.50	< 0.50	NT	< 0.50	0.34 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26 J	0.27 J	0.36 J	0.28 J	< 0.50 F-	< 0.50 F-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10 K-	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0
Chloroform			0.35 J	< 1.0	NT	< 1.0	0.32 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.23 J	0.24 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			27.6	24.0	6.4	35.6	114	40.9 C+	31.5	31.2	43.7	44.6	70.9	70.7	109	89.6	99.3	107	137	142	83.8	88.3	85.5	38.1	38.8	39.5	71.5	69.0	48.1	24.2	37.0	73.5	18.3	64.1 G K-	23.2	25.2
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			19.7	10.8	6.7	19.7	82.4	36.6 C+	24.5	24.5	39.1	39.3	61.7	61.7	89.2	73.0	91.4	97.7	123	130	74.9	78.6	89.1	57.9	53.0	47.6	86.4	76.2	57.3	30.2	30.0	86.5	38.5	109 K+	39	42.9
cis-1,2-Dichloroethylene			< 1.0	0.54 J	0.98 J	4.2	18.7	55.3 C+	81.5	80.9	214	212	225	224	296	247	311	380	390	373	165	196	214	143	140	169	178	185	150	145	112	209	150	321	71.1	84.1
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.9 G	2.5 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.9	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	2.9	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 50	< 50	< 50	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			10.8	13.8	NT	20.3	87.0	20.5 C+	14.9	13.5	32.4	32.2	33.3	32.9	29.9	23.3	41.4	46.0	77.5	81.4	15.9	20.3	50.3	9.2	9.1	22.3	27.1	26.2	28.8	19.0	14.1	64.6	4.6	47.3 K+	11.9	13.9
Methylene chloride			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			261	198	144	159	359	202 C+	165	164	226	228	287	290	290 G	384	359	360	393	405	481	477	561	415	409	363	569 R	604	546	339	581	371	266	398	303	300
Tetrahydrofuran			< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 20 F- K-	< 20	< 20	< 10	< 10	< 10	< 10	< 10
Toluene			0.54 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1.3	0.96 J	0.68 J	1.4	5.8	1.9 C+	1.3	1.2	5.6	5.7	3.3	3.2	3.9	3.1	3.8	4.0	4.2 J+	4.4 J+	3.4	3.4	4.3	7.5	< 2.0	3.3	5.3	4.8	4.1	4.3	6.5	8.0	1.5	3.6	1.3	1.4
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			34.0	36.1	26.7	61.3	142	72.8 C+	46.1	44.3	54.9	55.9	88.2	87.9	140	114	137	139	194	198.0	173	179	181	110	108	95.0	171	157	138	87.0	140	146	82.0	117	71	73
Vinyl chloride			0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.42 J	0.43 J	< 1.0	< 1.0	1.2	1.3	1.0	1.5	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	4.4	0.90 J	< 1.0	0.77 J G K-	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																					NT			NT			NT			NT			NT		NT	
Iron																					< 0.10 J+			NT			< 100			14200			NT		NT	
Manganese																					875			1570			954			1610			1470		909	
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																				
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			0.18 J B			< 0.30			0.66			0.10 J			< 10		< 10	
Ethane	8015	µg/l																			< 0.10			< 0.10			< 0.10			< 0.10			< 10		< 10	
Ethylene	8015	µg/l																			< 0.10			< 0.10			< 0.10			< 0.10			< 10		< 10	
Alkalinity	E310.1	µg/l																			233000			252000			245000			278000			285000		266000	
Chloride	E325.3	µg/l																			810000			915000			655000			857000			815000		700000	
Chlorine, Total Residual	E330.4	µg/l																			< 50 A			< 50			< 50 A			< 50 A F- J			< 50 A			
Iron, Ferrous	3500FE B	µg/l																			NT			NT			NT			NT			< 100		< 100	
Nitrate & Nitrite as N	E353.2	µg/l																			4700			3500			2600			1300			650		1200	
Nitrogen, Nitrate	E353.2	µg/l																			4700			3500			2600			1300			650		1200	
Nitrogen, Nitrite	E354.1	µg/l																			11			< 10			< 10			< 10			< 10		< 10	
Sodium	6010C	µg/l																			NT			NT			NT			NT			NT		NT	
Sulfate	E375.4	µg/l																			57100			52200			66100			68000			90900		63100	
Sulfide	E376.1	µg/l																			< 2000			< 2000			< 2000			< 2000			< 2000			
Surfactants	E425.1	µg/l																			< 100			< 100			< 100			< 100			< 100		< 100	
Total Organic Carbon	E415.1	µg/l																			1200			1100			< 1000			1500			< 1000		< 5000	

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW112A															MW113										MW114					
Sample Name:			MW112A 4 to 19 4/28/16 GEI	MW112A 4 to 19 11/21/16 GEI	MW112A 4 to 19 4/18/17 GEI	MW901 (FD) 4 to 19 4/18/2017 GEI	MW112A 4 to 19 11/10/2017 GEI	MW112A 4 to 19 4/4/2018 GEI	MW112A 4 to 19 11/15/2018 GEI	MW112A 4 to 19 4/15/2019 GEI	MW112A 4 to 19 11/22/2019 GEI	MW112A 4 to 19 4/16/2020 GEI	MW112A 4 to 19 11/18/2020 GEI	MW112A 4 to 19 4/13/2021 GEI	MW112A 4 to 19 11/30/2021 GEI	MW112A 4 to 19 4/14/2022 GEI	MW112A 4 to 19 11/29/2022 GEI	MW113 10 to 20 2/20/07 GEI	MW113 10 to 20 4/12/07 GEI	MW113 10 to 20 7/18/07 GEI	MW900 (FD) 10 to 20 7/18/07 GEI	MW113 10 to 20 10/10/07 GEI	MW900 (FD) 10 to 20 10/10/07 GEI	MW113 10 to 20 1/11/08 GEI	MW900 (FD) 10 to 20 1/11/08 GEI	MW113 10 to 20 4/15/08 GEI	MW900 (FD) 10 to 20 4/15/08 GEI	MW114 7 to 17 2/20/07 GEI	MW114 7 to 17 4/13/07 GEI	MW114 7 to 17 7/18/07 GEI	MW114 7 to 17 10/10/07 GEI	MW114 7 to 17 1/11/08 GEI	MW114 7 to 17 4/17/08 GEI
Well Screen Interval (ft bgs):																																	
Sample Date:																																	
Collected By:																																	
Analyte	**Method**	**Units**																															
Volatile Organic Compounds (VOCs)																																	
Acetone	8260	µg/l	< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	< 5.0	3.8 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	2.1 J
Benzene			< 0.50	0.43 J	0.23 J	0.23 J	< 1.0	<1.3	<1.3	<1.3	<0.50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	< 0.50	< 0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 10	<10	<10	< 20	<25	<25	<25	<10	<25	<25	<25	<25	<25	<25	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	< 5.0	0.66 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	<2.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			14.1	77	34.1	30.1	88.1	25.3	25.3	38.5	36.9	51	48	40	35	24	35	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			21.5	132	47.7	43.0	92.5	33.0	33.0	57.3	63.1	79	98	58	63	45	67	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	0.33 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			108	230	78.2	71.8	155	98.5	98.5	60.6	131.0	72	130	62	120	85	68	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 50	<130	<130	< 250	<310	<310	<310	<130	<1200	<1200	<1200	<1200	<1200	<1200	< 25	< 25	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 10	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<25	<25	<25	<25	<25	<25	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			3.9	53.9	11.6	11.4	56	19.1	19.1	25.9	21.7	27	30	19	12	5	13	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	<5.0	<5.0	< 10	<13	<13	<13	<5.0	<10	<10	<10	<10	<10	<10	< 5.0	1.2 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	<2.0	<10	<10	<10	<10	<10	<10	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			258	508	435	404	908	317	317	555	463	750	760	630	460	370	560	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	<10	<10	< 20	<25	<25	<25	<10	<10	<10	<10	<10	<10	<10	< 10	< 10	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	0.44 J	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.34 J	< 1.0	NT	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1.7	6.5	4.1	3.6	11.4	3.6	3.6	5.4	5.0	7.5	7.8	7.0	5.1	3.0	<5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			61.3	220.0	118.0	107	247	92.3	92.3	136	136	180	190	140	130	95	140	< 1.0	0.82 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 1.0	1.3	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	1.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<10	<10	<10	<10	<10	<10	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l		NT		NT	NT		NT		NT		NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic			NT		NT			NT		NT		NT		NT		NT																	
Iron			NT		NT			NT		NT		NT		NT		NT																	
Manganese			1530		627			2620		3360		2600		2550		635																	
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron										NT		NT																					
Others				NT		NT	NT		NT		NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	< 10		<10			320		6.7		17.6		5.88		2.11																	
Ethane	8015	µg/l	< 10		<10			12.2		<0.23		<0.500		<0.500		<0.500																	
Ethylene	8015	µg/l	< 10		<10			<0.31		<0.31		<0.500		<0.500		<0.500																	
Alkalinity	E310.1	µg/l	332000		339000			247000		259000		248000		234000		265000																	
Chloride	E325.3	µg/l	700000		439000			170000		517000		440000		540000		410000																	
Chlorine, Total Residual	E330.4	µg/l						280		<100		<20		<20		<20																	
Iron, Ferrous	3500FE B	µg/l	< 100		<100			<200		<200		<500		<500		<500																	
Nitrate & Nitrite as N	E353.2	µg/l	490		620			<100		490		330		240		<380																	
Nitrogen, Nitrate	E353.2	µg/l	490		620			<110		480		334		217		<371																	
Nitrogen, Nitrite	E354.1	µg/l	< 10		<10			<10		<10		<300		<300		<300																	
Sodium	6010C	µg/l	NT		NT			NT		NT		NT		NT		NT																	
Sulfate	E375.4	µg/l	117000		71000			59200		551000		50000		50000		60000																	
Sulfide	E376.1	µg/l						<200		<200		<100		<100		<100																	
Surfactants	E425.1	µg/l	< 100		<100			<100		<100		<50		<50		<50																	
Total Organic Carbon	E415.1	µg/l	< 1000		<1000			1700		<1000		750		700		750																	

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW115						MW116																											
Sample Name:			MW115 10 to 25 3/23/07	MW115 10 to 25 4/13/07	MW115 R 10 to 25 7/18/07	MW115 10 to 25 10/10/07	MW115 10 to 25 1/9/08	MW115 R 10 to 25 4/17/08	MW116 5 to 15 3/23/07	MW116 5 to 15 4/16/07	MW116 5 to 15 7/18/07	MW901 (FD) 5 to 15 7/18/07	MW116 5 to 15 10/12/07	MW901 (FD) 5 to 15 10/12/07	MW116 5 to 15 1/11/08	MW901 (FD) 5 to 15 1/11/08	MW116 5 to 15 4/15/08	MW901 (FD) 5 to 15 4/15/08	MW116 5 to 15 7/16/08	MW116 5 to 15 10/21/08	MW116 5 to 15 1/14/09	MW116 5 to 15 4/15/09	MW116 5 to 15 7/14/09	MW116 5 to 15 10/14/09	MW116 5 to 15 4/13/10	MW901 (FD) 5 to 15 4/13/10	MW116 5 to 15 4/21/11	MW901 (FD) 5 to 15 4/21/11	MW116 5 to 15 4/17/12	MW901 (FD) 5 to 15 4/17/12	MW116 5 to 15 4/24/13	MW901 (FD) 5 to 15 4/24/13	MW116 5 to 15 5/1/14	MW900 (FD) 5 to 15 5/1/14	MW116 5 to 15 4/2/15	MW900 (FD) 5 to 15 4/2/15
Well Screen Interval (ft bgs):																																				
Sample Date:																																				
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																		
Volatile Organic Compounds (VOCs)																																				
Acetone	8260	µg/l	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10 F+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 20	< 10	< 20	< 20	< 20
Benzene			< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	0.24 J	< 0.50	NT	NT	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0
Bromodichloromethane			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	1.1 J	0.99 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
2-Butanone (MEK)			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10
Carbon disulfide			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	2.9 J	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
Chlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.4	2.3	2.4 J	2.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0
Chloroform			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
Chloromethane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0
1,4-Dichlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0 J+	< 2.0 J+	< 2.0	< 5.0	< 1.0	1.6	1.0	0.82 J	0.77 J	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	135	4.4	97.3	96.9	80.1	79.3	18.9	15.6	66.8	64.5	114	109	72.5	101	69.7	92.2	63.9	68.9	27.8	23.4	52.8	51.8	31.5	25.8	38.5	41.9	52.0	49.9
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	0.23 J	0.20 J	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	107	2.7	33.8	34.0	24.8	22.4	14.7	11.8	46.3	45.7	78.4	79.8	56.5	70.6	35.2	68.8	49.1	51.9	22.4	14.1	43.3	42.3	26.7	39.4	46.1	50.3	52.4	50.8
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	103	21.7	415	431	346	341	49.5	42.9	105	102	286	319	146	84.1	92.7	133	80.7	92.1	84.6	68.3	115	112	94.8	144	107	116	114	111
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8	< 1.0	4.3	4.4	2.5	2.4	0.88 J	1.3	< 1.0	< 1.0	< 2.0	1.3	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	1.6	1.6	1.8	< 1.0	< 1.0	< 2.0	1.1	< 2.0	< 2.0	1.1 J	<2.0
1,2-Dichloropropane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0
1,4-Dioxane			< 25 J+	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT	NT	< 50	< 50	< 25	< 25	< 25	< 25	< 50	< 25	< 50	< 25	< 50 F-	< 50	< 130	< 25	< 25	< 25	< 25 K-	< 25 K-	< 100	< 50	< 50	< 50	< 50
Ethylbenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
2-Hexanone			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10
4-Isopropyltoluene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10
Methyl tert-butyl ether			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	12.3	0.40 J	NT	NT	12.5	12.7	2.1 J+	1.3 J+	7.1	6.9	18.2	18.0	9.0	11.7	7.2	8.4	5.4	5.9	4.4	4.4	3.4	3.3	14.1	10.6 K-	4.4	4.8	5.0	4.9
Methylene chloride			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0
Naphthalene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	0.68 J	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10
Tert-amyl methyl ether			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0 K-	< 4.0	< 4.0	< 4.0	< 4.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1180	32.2	167	168	116	110	267	257 J+	603	607	864	839	795	796 G	1020	1010	860	933	323	166	774	778	527	396	618	670	726	695
Tetrahydrofuran			< 10	< 10	NT	< 10	< 10	< 10	30.6	13.8	NT	NT	< 20	< 20	< 10	< 10	< 10	< 10	< 20	< 10	< 20	< 10	< 20 F+	< 20	< 50	< 10	< 10	< 10	< 10	< 10	< 20	< 10	13.3 J	15.7 J	<20	<20
Toluene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	21.6	0.67 J	10.6	10.7	9.4	9.2	3.3	2.5	10.7	10.7	16.0	15.6	12.8	16.6	8.5	14.3 J+	8.2	10.2	4.2	3.8	8.0	8.3	6.0	3.0	6.7	7.3	8.0	7.6
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	358	19.4	72.7	73.2	136	129	66.3	53.6	175	174	257	269	229	341	196	267	195	212	88.7	57.7	181	182	126	95.4	164	182	188	183
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	14.1	3.2	185	182	84.9	76.4	3.1	2.3	2.6	2.7	7.2	21.3	13.9	6.3	6.1	6.9	5.7	6.1	13.5	9.0	8.8 K+	8.8 K+	3.8	< 1.0	1.8 J	2.2	3.8	3.8
m,p-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																				
Iron																																				
Manganese																																				
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																				
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																		
Ethane	8015	µg/l																																		
Ethylene	8015	µg/l																																		
Alkalinity	E310.1	µg/l																																		
Chloride	E325.3	µg/l																																		
Chlorine, Total Residual	E330.4	µg/l																																		
Iron, Ferrous	3500FE B	µg/l																																		
Nitrate & Nitrite as N	E353.2	µg/l																																		
Nitrogen, Nitrate	E353.2	µg/l																																		
Nitrogen, Nitrite	E354.1	µg/l																																		
Sodium	6010C	µg/l																																		
Sulfate	E375.4	µg/l																																		
Sulfide	E376.1	µg/l																																		
Surfactants	E425.1	µg/l																																		
Total Organic Carbon	E415.1	µg/l																																		

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. *< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW116														MW117D																				
Sample Name:			MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD	MW116	MW900	MW116	MW900	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D
Well Screen Interval (ft bgs):			5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70
Sample Date:			4/29/16	4/29/16	4/17/17	4/17/17	4/4/18	4/4/18	4/16/19	4/16/19	4/17/20	4/17/20	4/14/21	4/14/21	4/14/22	4/14/22	7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/14/09	4/13/10	4/20/11	4/16/12	4/24/13	5/1/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																																					
Acetone	8260	µg/l	< 20	< 10	<10	<10	<10	<10	<10	<10	<25	<25	<12	<12	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10
Benzene			< 1.0	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	<2.5	<1.2	<1.2	<0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5
Bromodichloromethane			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 10	< 5.0	<10	<10	<10	<10	<10	<10	<25	<25	<25	<25	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10
Carbon disulfide			< 10	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	NT	< 5.0	< 5.0	6.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloroethane			< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
Chloroform			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	0.43 J	<1.0	<1.0
Chloromethane			< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			38.3	45.0	49.4	49.8	44.1	46.2	22.7	53.9	70	75	39	40	30	29	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
1,1-Dichloroethylene			27.7	36.4	35.1	34.4	19.7	20.9	9.4	31.3	30	39	27	27	20	20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			50.6	59	67.5	67.2	42.6	44.2	27.3	112.0	120	130	110	110	140	130	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 2.0	< 1.0	0.42 J	0.45 J	1.1	1.2	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 50	< 50	<130	<130	<130	<130	<130	<130	<1200	<1200	<620	<620	<250	<250	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	<130	<130	<130
Ethylbenzene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Hexanone			< 10	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<12	<12	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 10	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<10	<10	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			< 2.0	0.79 J	1.6	1.6	1.1	1.2	<1.0	3.5	<10	<10	<5.0	<5.0	2.3	2.2	NT	1.6	2.3	1.5	< 1.0	1.5	0.96 J	0.86 J	1.3	1.5	1.2	< 1.0	< 1.0	6.8	< 1.0	< 1.0	0.66 J	1.3	<1.0	1.4	
Methylene chloride			< 4.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
Naphthalene			< 10	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	<2.0	<2.0	NT	< 5.0	4.9 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
Tert-amyl methyl ether			< 4.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 2.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			450	436	482	456	233	253	129	404	520	550	340	340	120	120	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			<20	< 10	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<5.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10
Toluene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	NT	0.98 J	< 1.0	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			3.8	4.4	3.8	3.7	1.8	2.0	1.0	2.6	<5.0	<5.0	2.6	2.6	3.2	3.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			113	139	131	129	83.3	86.3	37	157	200	220	120	120	35	34	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 2.0	< 1.0	1.6	1.4	<1.0	<1.0	<1.0	20.2	22	29	50	49	130	120	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
o-Xylene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Total Xylene			< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																					
Iron																																					
Manganese																																					
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																			
Ethane	8015	µg/l																																			
Ethylene	8015	µg/l																																			
Alkalinity	E310.1	µg/l																																			
Chloride	E325.3	µg/l																																			
Chlorine, Total Residual	E330.4	µg/l																																			
Iron, Ferrous	3500FE B	µg/l																																			
Nitrate & Nitrite as N	E353.2	µg/l																																			
Nitrogen, Nitrate	E353.2	µg/l																																			
Nitrogen, Nitrite	E354.1	µg/l																																			
Sodium	6010C	µg/l																																			
Sulfate	E375.4	µg/l																																			
Sulfide	E376.1	µg/l																																			
Surfactants	E425.1	µg/l																																			
Total Organic Carbon	E415.1	µg/l																																			

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW117D			MW117S																						MW117T									
Sample Name:			MW117D	MW117D	MW117D	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T
Well Screen Interval (ft bgs):			60 to 70	60 to 70	60 to 70	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45
Sample Date:			4/16/20	4/13/21	4/12/22	7/18/07	10/15/07	1/11/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/14/09	4/13/10	4/21/11	4/16/12	4/24/13	5/1/14	4/2/15	4/27/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/16/09	4/13/10
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																																					
Acetone	8260	µg/l	<5.0	<5.0	5.8	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<0.10	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Benzene			<0.5	<0.5	<0.5	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Carbon disulfide			<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			<250	<250	<250	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	<130	<130	<250	<250	<250	<250	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25
Ethylbenzene			<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			2	2	<2	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	NT	3.4	9.8	4.8	1.7	2.8	1.9	4.1	1.5	7.0	1.6
Methylene chloride			<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Tert-amyl methyl ether			<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																						
Iron																																						
Manganese																																						
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																				
Ethane	8015	µg/l																																				
Ethylene	8015	µg/l																																				
Alkalinity	E310.1	µg/l																																				
Chloride	E325.3	µg/l																																				
Chlorine, Total Residual	E330.4	µg/l																																				
Iron, Ferrous	3500FE B	µg/l																																				
Nitrate & Nitrite as N	E353.2	µg/l																																				
Nitrogen, Nitrate	E353.2	µg/l																																				
Nitrogen, Nitrite	E354.1	µg/l																																				
Sodium	6010C	µg/l																																				
Sulfate	E375.4	µg/l																																				
Sulfide	E376.1	µg/l																																				
Surfactants	E425.1	µg/l																																				
Total Organic Carbon	E415.1	µg/l																																				

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW117T												MW118D																							
Sample Name:			MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW901 (FD	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D
Well Screen Interval (ft bgs):			35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80
Sample Date:			4/21/11	4/16/12	4/23/13	5/1/14	4/2/15	4/27/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	7/20/07	8/30/07	10/11/07	1/16/08	4/16/08	7/16/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/24/13	11/18/13	5/1/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																																					
Acetone	8260	µg/l	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	< 10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	NT	NT	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	4.8	3.1	3.1
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	20.3	21.4	31.2	31.7	33.3	34.3	22.8	26.0	22.8	28.7	41.2	39.5	40.0	43.5	36.9	41.4	38.5	39.1	40.6	47.9	46.6	39.3	43.9	37.7
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.55 J	< 1.0	< 1.0	< 1.0	0.79 J K+	0.90 J	1.6	1.8	0.85 J
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.55 J	< 1.0	< 1.0	< 1.0	< 1.0	0.96 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.3	1.2	1.6	2.7	5.1	6.5	6.8	6.9	5.6	27.8	8.6
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K+	0.62 J	2.2	2.9	0.81 J
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 25	< 50
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 10
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.93 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			1.4	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	NT	NT	< 1.0	0.40 J	< 1.0	0.40 J	< 1.0	< 1.0	0.38 J	0.39 J	0.55 J	0.51 J	< 1.0	0.83 J	< 1.0	0.63 J	< 1.0	0.46 J	< 1.0	1.9 K+	0.69 J	0.89 J	< 1.0	1.3
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.1 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	7.0	8.4	8.2	6.1	5.7	7.1	2.1	1.2	< 1.0	2.3	0.93 J	1.1	1.5	4.6	8.4	4.3	5.8	1.3	< 1.0	2.2	5.1	39.7	49.8	6.5
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	0.62 J	< 1.0	0.27 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	3.9	1.8	0.94 J	1.0	1.9	< 1.0	1.9	1.5	3.0	6.1	6.3	10.0	11.9	7.4	11.5	7.7	7.3	4.3	6.9	4.6	17.6	14.4	3.3
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G K-	< 1.0	1.9	20.2	3.1
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																						
Iron																																						
Manganese																																						
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																				
Ethane	8015	µg/l																																				
Ethylene	8015	µg/l																																				
Alkalinity	E310.1	µg/l																																				
Chloride	E325.3	µg/l																																				
Chlorine, Total Residual	E330.4	µg/l																																				
Iron, Ferrous	3500FE B	µg/l																																				
Nitrate & Nitrite as N	E353.2	µg/l																																				
Nitrogen, Nitrate	E353.2	µg/l																																				
Nitrogen, Nitrite	E354.1	µg/l																																				
Sodium	6010C	µg/l																																				
Sulfate	E375.4	µg/l																																				
Sulfide	E376.1	µg/l																																				
Surfactants	E425.1	µg/l																																				
Total Organic Carbon	E415.1	µg/l																																				

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW118D												MW118S																							
Sample Name:			MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S
Well Screen Interval (ft bgs):			70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14
Sample Date:			4/17/2017	11/8/2017	4/3/2018	11/15/2018	4/15/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/12/2022	11/29/2022	7/20/07	8/30/07	10/11/07	1/11/08	4/16/08	7/15/08	10/21/08	1/14/09	4/15/09	7/15/09	10/14/09	4/12/10	4/20/11	4/24/13	5/1/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/12/22
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																				
Volatile Organic Compounds (VOCs)																																						
Acetone	8260	µg/l	<10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	40	<5.0	<5.0
Benzene			<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			<10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0
Carbon disulfide			<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Carbon tetrachloride			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane			1.1	3.4	3.7	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
Chloroform			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			34.8	27.4	21.9	20.0	18.6	33.9	44	27	25	22	30	29	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			0.78 J	< 1.0	< 1.0	< 1.0	<1.0	2.6	2.4	1.3	< 1.0	< 1.0	< 1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			7.9	5	4.3	3.7	3.2	57.3	53	10	5.8	4.7	4.1	3.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			0.55 J	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane			<130	< 130	< 130	< 130	< 130	< 130	<250	<250	<250	<250	<250	<250	NT	NT	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 50	< 25	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	<250
Ethylbenzene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone			<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	21.9	< 5.0	2.9 J	6.0	< 5.0	10.3	<2.0	<2.0	<2.0	3.1	<2.0	<2.0
Methyl tert-butyl ether			0.81 J	< 1.0	1.1	1.3	1.3	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Methylene chloride			<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0
Tert-amyl methyl ether			<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			5.8	2.7	2.7	1.8	1.6	40.9	38	27	2.2	1.1	<1.0	1.1	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.29 J	< 1.0	0.38 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			<10	< 10	< 10	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	NT	NT	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	<2.0
Toluene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			2.6	1.7	1.5	1.5	1.1	11.4	11	7.9	2.7	1.7	<1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			0.93 J	2.4	1.9	< 1.0	1.1	11.8	19	3.8	3.3	1.9	<1.0	2.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
o-Xylene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																						
Iron																																						
Manganese																																						
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																				
Ethane	8015	µg/l																																				
Ethylene	8015	µg/l																																				
Alkalinity	E310.1	µg/l																																				
Chloride	E325.3	µg/l																																				
Chlorine, Total Residual	E330.4	µg/l																																				
Iron, Ferrous	3500FE B	µg/l																																				
Nitrate & Nitrite as N	E353.2	µg/l																																				
Nitrogen, Nitrate	E353.2	µg/l																																				
Nitrogen, Nitrite	E354.1	µg/l																																				
Sodium	6010C	µg/l																																				
Sulfate	E375.4	µg/l																																				
Sulfide	E376.1	µg/l																																				
Surfactants	E425.1	µg/l																																				
Total Organic Carbon	E415.1	µg/l																																				

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW118T																							MW119S				
Sample Name:			MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW119S	MW119S	MW119S	MW119S	MW119S
Well Screen Interval (ft bgs):			39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			7/20/07	8/30/07	10/11/07	1/15/08	4/16/08	7/15/08	10/21/08	1/14/09	4/14/09	7/14/09	10/15/09	4/12/10	4/20/11	4/17/12	4/24/13	5/1/14	4/3/15	4/28/16	4/17/17	4/3/18	4/16/19	4/17/20	4/13/21	4/12/22	8/22/07	10/12/07	1/15/08	4/16/08	7/15/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0
Benzene			NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0
Carbon disulfide			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,4-Dichlorobenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			35.4	34.4	44.2	42.3	42.0	41.9	37.0	33.4	33.6	40.0	53.3 J+	37.8	35.9	28.8	26.9	28.4	31.3	31.3	26.7	22.4	5.8	23	16	1.5	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.36 J	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.45 J	< 1.0	0.55 J	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			NT	NT	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	< 25 J+	< 25	< 25	< 25	< 25
Ethylbenzene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			NT	NT	2.4	3.1	2.2	2.5	2.2	2.3	2.0	1.9	7.5	1.2	2.4	1.8	7.1	0.94 J	1.5	1.1	1.9	1.6	<1.0	2.1	<2.0	<2.0	5.2 J+	2.0	2.1	0.83 J	< 1.0
Methylene chloride			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			3.0	3.8	2.2	2.9	2.7	2.5	2.4	2.1	2.0	1.7	2.8	1.6	2.1	2.1	1.5	1.0	1.3	2.0	0.90 J	<1.0	<1.0	1.4	1.1	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			NT	NT	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	< 10 J+	< 10	< 10	< 10	< 10
Toluene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.50 J	0.80 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.26 J	0.62 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																															
Iron																															
Manganese																															
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																															
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																													
Ethane	8015	µg/l																													
Ethylene	8015	µg/l																													
Alkalinity	E310.1	µg/l																													
Chloride	E325.3	µg/l																													
Chlorine, Total Residual	E330.4	µg/l																													
Iron, Ferrous	3500FE B	µg/l																													
Nitrate & Nitrite as N	E353.2	µg/l																													
Nitrogen, Nitrate	E353.2	µg/l																													
Nitrogen, Nitrite	E354.1	µg/l																													
Sodium	6010C	µg/l																													
Sulfate	E375.4	µg/l																													
Sulfide	E376.1	µg/l																													
Surfactants	E425.1	µg/l																													
Total Organic Carbon	E415.1	µg/l																													

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW119S																		MW119T																	
Sample Name:			MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47
Sample Date:			10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/2/15	4/28/16	4/18/17	4/3/18	4/16/19	4/17/20	4/14/21	4/13/22	8/22/07	10/12/07	1/16/08	4/16/08	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/2/15	4/28/16	4/18/17
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																				
Volatile Organic Compounds (VOCs)																																						
Acetone	8260	µg/l	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	9.2 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	1.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10.4 J+	11.0	10.9	10.4	11.0	5.3	9.0	9.1	7.7	10.8 J+	10.2	9.4	6.4	5.9	5.6	5.9	4.4	4.9
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.0 J+	6.4	6.0	6.2	5.8	< 1.0	5.1	5.0	4.6	6.1 J+	5.4	7.0	4.4	4.2	4.1	4.5	3.4	3.7
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.54 J J+	1.2	1.1	1.2	1.1	< 1.0	0.20 J	1.0	0.66 J	0.94 J J+	< 1.0	< 1.0	0.95 J	0.80 J	< 1.0	0.70 J	0.65 J	0.82 J
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0
1,4-Dioxane			< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	4.1 J+	0.66 J	0.64 J	0.50 J	< 1.0	< 1.0	0.47 J	0.37 J	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	9.1 K-	1.5	0.98 J	< 1.0	0.55 J
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	94.3 J+	105	85.0	86.3	81.2	17.5	78.8	72.2	85.8	72.5	85.4	74.6	75.1	68.5	56.4	54.5	55.7	50.6
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.69 J	0.52 J	2.6	< 1.0	< 1.0	0.46 J	< 1.0	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	0.25 J
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	25.9 J+	29.6	26.7	26.8	26.7	6.7	24.9	23.7	26.4	23.0	27.1	23.2	21.0	21.3	16.8	20.2	18.3	17.6
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																							
Iron																																							
Manganese																																							
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																							
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																					
Ethane	8015	µg/l																																					
Ethylene	8015	µg/l																																					
Alkalinity	E310.1	µg/l																																					
Chloride	E325.3	µg/l																																					
Chlorine, Total Residual	E330.4	µg/l																																					
Iron, Ferrous	3500FE B	µg/l																																					
Nitrate & Nitrite as N	E353.2	µg/l																																					
Nitrogen, Nitrate	E353.2	µg/l																																					
Nitrogen, Nitrite	E354.1	µg/l																																					
Sodium	6010C	µg/l																																					
Sulfate	E375.4	µg/l																																					
Sulfide	E376.1	µg/l																																					
Surfactants	E425.1	µg/l																																					
Total Organic Carbon	E415.1	µg/l																																					

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW119T					MW120D																						MW120S								
Sample Name:			MW119T	MW119T	MW119T	MW119T	MW119T	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S
Well Screen Interval (ft bgs):			42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			4/3/18	4/16/19	4/17/20	4/14/21	4/13/22	8/22/07	10/12/07	1/17/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	8/22/07	10/12/07	1/15/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																																					
Acetone	8260	µg/l	<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Benzene			<0.50	<0.50	<0.50	<0.5	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.56 J J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			<1.0	<1.0	<2.0	<2.0	<2.0	12.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	0.85 J	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	10.3 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			4.0	1.8	4.3	2.7	1.1	23.0 J+	26.0	23.2	30.8	29.5	21.8	21.4	20.9	18.4	31.1 J+	25.1	23.1	17.0	15.8	16.2	16.2	11.6	11.4	12.8	3.1	16.0	12.0	3.8	1.1 J+	4.3	< 1.0	< 1.0	2.5	< 1.0	< 1.0	< 1.0	0.36 J
1,2-Dichloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			2.4	<1.0	3.3	1.9	<1.0	15.6 J+	18.9	14.3	17.8	22.0	18.4	16.7	16.9	14.1	24.7 J+	19.4	23.8	15.5	14.8	16.7	16.8	8.2	9.7	14.1	1.3	14	10	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	<1.0	0.70 J J+	< 1.0	1.7	1.9	1.9	1.6	0.70 J	1.6	1.5	1.8 J+	1.7	2.4	1.4	1.1	< 1.0	0.95 J	0.64 J	0.81 J	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			<130	<130	<250	<250	<250	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25 J+	< 25
Ethylbenzene			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			<1.0	<1.0	<2.0	<2.0	<2.0	6.8 J+	3.9	3.2	4.2	3.8	6.6	2.8	2.4	2.0	7.5	2.2	2.2	1.4	7.1 K-	0.78 J	1.1	< 1.0	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			<5.0	<5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	0.68 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+
Tert-amyl methyl ether			<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			33.0	2.6	52.0	32.0	3.1	93.5 J+	120	113	131	103	118	84.2	114	99.3	95.0	95.9	75.0	78.5	72.0	66.4	52.9	40.4	35.2	49.9	7.7	59.0	36.0	6.5	< 1.0	< 1.0	0.97 J	< 1.0	< 1.0	0.71 J	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			<10	<10	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10
Toluene			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			<1.0	<1.0	<1.0	<1.0	<1.0	10.3 J+	4.3	3.2	< 1.0	3.9	6.4	2.8	3.7	2.5	3.3	3.5	4.3	2.0	2.6	1.7	2.1	1.1	0.45 J	1.1	<1.0	1.2	1.2	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			12.8	2.5	17.0	10.0	1.6	32.6 J+	40.1	34.7	43.4	38.7	33.2	30.4	33.8	32.0	33.1	34.8	28.3	26.1	23.6	22.1	21.4	15.7	13.8	18.6	3.4	21.0	14.0	2.9	< 1.0	< 1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.38 J	0.35 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																						
Iron																																						
Manganese																																						
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																				
Ethane	8015	µg/l																																				
Ethylene	8015	µg/l																																				
Alkalinity	E310.1	µg/l																																				
Chloride	E325.3	µg/l																																				
Chlorine, Total Residual	E330.4	µg/l																																				
Iron, Ferrous	3500FE B	µg/l																																				
Nitrate & Nitrite as N	E353.2	µg/l																																				
Nitrogen, Nitrate	E353.2	µg/l																																				
Nitrogen, Nitrite	E354.1	µg/l																																				
Sodium	6010C	µg/l																																				
Sulfate	E375.4	µg/l																																				
Sulfide	E376.1	µg/l																																				
Surfactants	E425.1	µg/l																																				
Total Organic Carbon	E415.1	µg/l																																				

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW120S														MW121D															
Sample Name:			MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW121D	MW121D	MW121D	MW121D	MW901	MW121D	MW900 (FD)	MW121D	MW901 (FD)	MW121D	MW900 (FD)	MW121D	MW900 (FD)	MW121D	MW121D	MW121D
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
Sample Date:			10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	10/22/07	1/15/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	4.2 J K-	< 10	< 10	< 10	9.3 J	<10	<10	<10	5.3	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0 K-
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.3
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	0.52 J	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	46.3	55.3	46.6	37.2	38.1	36.1	34.2	38.2	38.3	37.2	38.1	37.6	37.9	54.8	52.9	65.8	67.7
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	13.2	< 1.0	16.7	12.8	12.6	12.9 G	8.4 G	14.0	14.2	14.1	14.2	11.0	10.4	21.8	18.0	24.1	25.5
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.9	11.8	6.4	21.8	22.6	83.7 G	41.2 G	134	138	80.0	78.4	105	106	253	279	217	178
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.70 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	5.8	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	<250	<250	<250	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	3.0	3.8	2.4	2.1	2.0	5.6	5.6	1.8	1.8	1.7	1.9	1.4	1.4	< 1.0	0.94 J	2.0	1.7
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	182	258	177	157	154	148 G	97.7 G	112	114	121	118	140	139	115	119	219	356
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.51 J	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	1.3	1.2	1.1	1.0	4.9	4.6	0.87 J	0.86 J	1.0	< 1.0	0.95 J	1.0	< 1.0	0.62 J	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	59.6	136	68.8	71.0	72.0	48.3 G	69.0 G	36.5	36.3	62.3	70.7	76.3	76.5	146.0	96.3	233.0	342
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.32 J	0.31 J	< 1.0	< 1.0	0.56 J	0.52 J	< 1.0	< 1.0	7.4	15.2
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																
Iron																																
Manganese																																
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																														
Ethane	8015	µg/l																														
Ethylene	8015	µg/l																														
Alkalinity	E310.1	µg/l																														
Chloride	E325.3	µg/l																														
Chlorine, Total Residual	E330.4	µg/l																														
Iron, Ferrous	3500FE B	µg/l																														
Nitrate & Nitrite as N	E353.2	µg/l																														
Nitrogen, Nitrate	E353.2	µg/l																														
Nitrogen, Nitrite	E354.1	µg/l																														
Sodium	6010C	µg/l																														
Sulfate	E375.4	µg/l																														
Sulfide	E376.1	µg/l																														
Surfactants	E425.1	µg/l																														
Total Organic Carbon	E415.1	µg/l																														

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW121D																				MW121S								
Sample Name:			MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S
Well Screen Interval (ft bgs):			32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/17	11/8/17	4/3/18	11/15/18	4/15/19	11/22/19	4/16/20	11/18/20	4/13/21	11/30/21	4/13/22	11/29/22	10/22/07	1/15/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09	7/14/09	10/14/09
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	8.7 J	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			49.9	63.4	32.1	45.0	149.0	55.7	35.9	40.2	109.0	32.0	47.6	14.8	14.0	18.8	18.0	16	12	18	18	18	38	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			17.6	22.3	12.7	17.6	59.7 K+	23.5	14.5	14.9	35.9	14.8	15.3	7.6	7.0	7.7	8.7	8.6	8.0	7.5	6.3	2.3	7.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			122	193	67.2	133	316	186	73.6	108	271	79.9	119	24.8	44.3	73.5	85.4	20	26	37	18	33	11	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	2.9	< 1.0	1.5	0.57 J K+	<1.0	<1.0	<1.0	1.1	0.37 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 50	< 50	< 25 K-	< 25 K-	<25	<25	<25	< 50	< 130	< 130	< 130	< 130	< 130	< 130	<250	<250	<250	<250	<250	<250	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			2.1	8.6 K-	2.7	2.3	7.1 K+	2.1	1.6	0.72 J	1.7	1.4	1.4	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 5.0	5.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			223	276	124	163	224	216	216	227	139	160	242	78	47.5	48.2	64.8	87	58	72	52	1.9	54	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10 F- K-	< 10	< 10	< 10 G	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	0.53 J	0.44 J	1.4	0.56 J	1.1	< 1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			207	342	115	236	432	266	148	262	176	159	310	39.7	23.5	31.1	40.0	34	22	40	27	5	32.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			8.5	10.2	3.4	9.5	38.4 G K-	15	7.5	18.2	23.3	6.6	10.4	<1.0	6.1	9	4.5	<1.0	2.0	1.5	1.0	31.0	3.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																
Iron																																
Manganese																																
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																														
Ethane	8015	µg/l																														
Ethylene	8015	µg/l																														
Alkalinity	E310.1	µg/l																														
Chloride	E325.3	µg/l																														
Chlorine, Total Residual	E330.4	µg/l																														
Iron, Ferrous	3500FE B	µg/l																														
Nitrate & Nitrite as N	E353.2	µg/l																														
Nitrogen, Nitrate	E353.2	µg/l																														
Nitrogen, Nitrite	E354.1	µg/l																														
Sodium	6010C	µg/l																														
Sulfate	E375.4	µg/l																														
Sulfide	E376.1	µg/l																														
Surfactants	E425.1	µg/l																														
Total Organic Carbon	E415.1	µg/l																														

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW121S													MW122																						
Sample Name:			MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16
Sample Date:			4/12/10	4/20/11	4/16/12	4/23/13	4/30/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/13/22	4/13/22	1/30/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09	7/15/09	10/14/09	4/12/10	10/27/10	4/20/11	11/16/11	4/17/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	FD	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																				
Volatile Organic Compounds (VOCs)																																						
Acetone	8260	µg/l	< 5.0 J+	< 5.0	8.2 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0		< 5.0 J+	9.6 J	11.1	7.2	5.7	< 5.0	< 5.0 F-	< 10	3.8 J+	< 5.0	17.8	< 5.0	< 5.0	< 25 K-	< 50	< 50 K-	< 20	< 20	< 20	< 10	9.4 J	< 40	< 50	< 10
Benzene			< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5		< 0.50	< 1.0	0.46 J	< 0.50	< 0.50	< 0.50	0.23 J	< 1.0	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 2.5	< 2.5	< 2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 2.0	< 2.5	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	1.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	<10	<10	<5.0	<5.0	<5.0		< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25 K-	< 25	< 25	< 10	< 10	< 10	17.3 J	< 10	< 40	< 50	< 10
Carbon disulfide			< 5.0	< 5.0	< 5.0	13.4	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F-	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 10	< 2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0		< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 2.0	< 1.0	0.61 J	< 1.0	< 1.0	< 1.0	0.75 J	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 2.0	< 4.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		19.3	30.4 C+	10.1	15.0	16.0	25.8	21.2	20.8	29.6	20.3	19.1	15.2	17.2	14.4	11.1	12.7	15.9	12.8	15.0	6.8	18.3	20.5	30.9	14.8
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		4.0	9.0 C+	1.4	4.4	3.4	6.1	5.3 F-	6.6	7.3	4.6	8.3	4.1	6.4	4.7 J	4.1 J	4.4 J	5.1	3.8 K+	4.5	1.6 J	5.8	5.6	7.7	3.9
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		60.6	70.7 C+	34.0	62.5	91.5	61.9	39.4	109.0	58.6	117	45.5	66.4	61.5	84.7	56.2	67.2	68.0	69.3	43.8	75.7	61.3	68.5	67.2	50
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		0.87 J	< 2.0	< 1.0	< 1.0	< 1.0	0.93 J	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K+	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0
1,4-Dioxane			< 25	< 25	< 25	< 50	< 25 K-	< 25	< 25	<130	<130	<130	<250	<250	<250		< 25	< 50	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 50	< 25	< 25 K-	< 130	< 260	< 260	< 50 K-	< 50 K-	< 50	< 50	< 50	< 200	< 630	< 130
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0		< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25 K-	< 10	< 10	< 10	< 10	< 10	< 40	< 25	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 2.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0		3.3	3.9 C+	1.9	5.6	2.5	3.2	3.3	2.9	2.3	2.7	2.9	2.1	2.7	2.2 J	< 5.0 K-	< 5.0	1.5 J	2.6 K+	1.8	1.0 J	1.2	< 4.0	3.7	1.1
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	1.1 J	< 2.0	39.4	< 10	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0		< 5.0	< 10	2.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 25	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 10	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0		< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	<2.0	<2.0	< 1.0	< 4.0	< 5.0	< 1.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		477	691 C+	122	352 G	312	499 G	677	518	856	532	656	581	1000	811	938	726	592	499	784	326	734	684	910	579
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0		< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 10	< 20	< 10	< 10	< 50 F- K-	< 50	< 50	< 20 G	< 20	< 20	< 20	< 10	< 40	< 50	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	6.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		0.48 J	< 2.0	2.8	3.7	0.64 J	2.4	1.6	< 4.0	6.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	6	< 2.0	0.79 J	0.72	< 2.0	< 1.0	< 4.0	< 5.0	20.7
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		1.4	3.4 C+	0.63 J	5.1	1.1	1.7	1.7	< 2.0	1.5	< 1.0	7.5	1.4	2.2	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	2.0	< 2.0	0.92 J	< 4.0	< 5.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		177	106 C+	27.0	56.9	59.6	91.7	90.2	81.1	119.0	82.1	73.1	79.0	103	88.0	93.4	76.0	98.9	58.9	82.9	44.9	98.3	87.1	102.0	63.3
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		0.32 J	< 2.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0 F-	4.3	< 1.0	3.6	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K-	1.8	1.2	0.73 J	< 4.0	< 5.0	1.3
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0		< 1.0	< 2.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 2.0	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		< 1.0	< 2.0	1.6 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																							
Iron																																							
Manganese																																							
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																							
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																					
Ethane	8015	µg/l																																					
Ethylene	8015	µg/l																																					
Alkalinity	E310.1	µg/l																																					
Chloride	E325.3	µg/l																																					
Chlorine, Total Residual	E330.4	µg/l																																					
Iron, Ferrous	3500FE B	µg/l																																					
Nitrate & Nitrite as N	E353.2	µg/l																																					
Nitrogen, Nitrate	E353.2	µg/l																																					
Nitrogen, Nitrite	E354.1	µg/l																																					
Sodium	6010C	µg/l																																					
Sulfate	E375.4	µg/l																																					
Sulfide	E376.1	µg/l																																					
Surfactants	E425.1	µg/l																																					
Total Organic Carbon	E415.1	µg/l																																					

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW122										MW201				MW202															
Sample Name:			MW122 4 to 16 4/3/2018	MW122 4 to 16 11/15/2018	MW122 4 to 16 4/16/2019	MW122 4 to 16 11/22/2019	MW122 4 to 16 4/16/2020	MW122 4 to 16 11/18/2020	MW122 4 to 16 4/13/2021	MW122 4 to 16 11/30/2021	MW122 4 to 16 4/13/2022	MW122 4 to 16 11/29/2022	MW201 11 to 21 7/19/07	MW201 11 to 21 10/12/07	MW201 11 to 21 1/11/08	MW201 11 to 21 4/15/08	MW202 10.5 to 20.5 7/19/07	MW202 10.5 to 20.5 10/12/07	MW202 10.5 to 20.5 1/11/08	MW202 10.5 to 20.5 4/15/08	MW202 10.5 to 20.5 7/15/08	MW202 10.5 to 20.5 10/21/08	MW202 10.5 to 20.5 1/13/09	MW202 10.5 to 20.5 4/15/09	MW202 10.5 to 20.5 7/14/09	MW202 10.5 to 20.5 10/14/09	MW202 10.5 to 20.5 4/12/10	MW202 10.5 to 20.5 4/22/11	MW202 10.5 to 20.5 4/17/12	MW202 10.5 to 20.5 4/23/13	MW202 10.5 to 20.5 5/1/14	MW202 10.5 to 20.5 4/2/15
Well Screen Interval (ft bgs):																																
Sample Date:																																
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	<50	<50	<20	<50	<50	<50	<25	<100	<100	<50	NT	< 5.0 J+	< 5.0	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10
Benzene			<2.5	<2.5	<1.0	<2.5	<5.0	<5.0	<2.5	<10	<10	<5	NT	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			<50	<50	<20	<50	<50	<50	<50	<100	<100	<50	NT	< 5.0 J+	< 5.0	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			<10	<10	<4.0	<10	<20	<20	<5	<40	<40	<20	NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20	<10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	NT	0.47 J	0.40 J	0.24 J	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	NT	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			<5.0	<5.0	<2.0	<5.0	<10	<10	<5	<20	<20	<10	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			22.7	17.0	18.8	16.4	29	48	44	46	35	24	< 1.0	0.66 J	< 1.0	0.23 J	0.50 J	< 1.0	< 1.0	< 1.0	0.46 J	< 1.0	< 1.0	0.34 J	< 1.0	< 1.0	3.1	5.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			8.1	7.3	6.1	6.9	<10	12	6.9	<20	<20	<10	4.7	4.9	5.2	3.0	1.1	< 1.0	< 1.0	2.9	2.8	1.6	1.9	3.2	< 1.0	< 1.0	15.5	< 1.0	2.4	0.93 J	0.92 J	
cis-1,2-Dichloroethylene			64.4	71.0	69.1	95.8	150	150	110	130	130	180	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	NT	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			<630	<630	<250	<630	<2500	<2500	<1200	<5000	<5000	<2500	NT	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25 K-	< 50	< 50	<25
Ethylbenzene			<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			<25	<25	<2.0	<25	<50	<50	<25	<100	<100	<50	NT	< 5.0 J+	< 5.0	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			<10	<10	<4.0	<10	<20	<20	<20	<40	<40	<20	NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	11.3	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			<5.0	<5.0	2.1	<5.0	<20	<20	<10	<40	<40	<20	NT	75.8	240	0.26 J	NT	< 1.0	< 1.0	1.2	< 1.0	< 1.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0
Methylene chloride			<10	<10	<4.0	<10	<20	<20	<20	<40	<40	<20	NT	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			<25	<25	<10	<25	<20	<20	<10	<40	<40	<20	NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			<10	<10	<4.0	<10	<20	<20	<10	<40	<40	<20	NT	4.6	17.7	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0
Tetrachloroethylene (PCE)			959	1150	1060	961	1200	1400	820	1600	1700	1200	5.1	19.6	25.8	18.0	17.2	14.6	21.8	55.6	48.5	39.4	37.5	53.5	52.6	61.8	84.9	86.5	20.6	37.0	31.4	28.1
Tetrahydrofuran			<50	<50	<2.0	<50	<20	<20	<10	<40	<40	<20	NT	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	9.8	36.3	32.9	7.3	12.5	4.4	4.2	35.2	18.9	7.1	8.0	15.7	6.6	14.3 J+	16.8	18.6	2.8	5.2	6.9	7.4
1,1,2-Trichloroethane			<5.0	<5.0	<2.0	<5.0	<10	<10	<10	<20	<20	<10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			110.0	122	121	131	140	170	130	220	210	160	4.5	7.2	8.2	6.4	2.2	1.5	1.6	6.9	8.6	5.3	5.6	11.8 J+	7.2	9.8	12.9	8.2	1.5	2.5	1.5	1.4
Vinyl chloride			<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			<5.0	<5.0	<2.0	<5.0	<20	<20	<10	<40	<40	<20	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			<5.0	<5.0	<2.0	<5.0	<10	<10	<5.0	<20	<20	<10	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																
Iron																																
Manganese																																
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																														
Ethane	8015	µg/l																														
Ethylene	8015	µg/l																														
Alkalinity	E310.1	µg/l																														
Chloride	E325.3	µg/l																														
Chlorine, Total Residual	E330.4	µg/l																														
Iron, Ferrous	3500FE B	µg/l																														
Nitrate & Nitrite as N	E353.2	µg/l																														
Nitrogen, Nitrate	E353.2	µg/l																														
Nitrogen, Nitrite	E354.1	µg/l																														
Sodium	6010C	µg/l																														
Sulfate	E375.4	µg/l																														
Sulfide	E376.1	µg/l																														
Surfactants	E425.1	µg/l																														
Total Organic Carbon	E415.1	µg/l																														

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW202							MW203		MW-3												MW- CS1	SH-1	SH-3	SH-4	SH-MW1					SH-MW2		
Sample Name:			MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW203	MW203	MW-3	MW-3	MW-3	MW-3	MW3	MW3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-CS1	SH-1	SH-3	SH-4	SH-MW1	SH-MW1	SH-MW1	SH-MW1	SHMW1	SH-MW2	SH-MW2	SH-MW-2
Well Screen Interval (ft bgs):			10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	6 to 18	6 to 18	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	9 to 14	8 to 13	11 to 16	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 25	10 to 25	10 to 25
Sample Date:			4/29/16	4/17/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	7/19/07	4/15/08	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	4/15/08	7/15/08	10/21/08	1/14/09	4/14/09	7/15/09	10/16/09	5/23/07	8/9/04	8/9/04	5/25/06	7/8/02	5/23/06	10/4/06	1/16/07	4/12/07	7/8/02	8/16/04	5/23/06
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GeoInsight	GEI	SHA	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI
Analyte	**Method**	**Units**																																	
Volatile Organic Compounds (VOCs)																																			
Acetone	8260	µg/l	9.7	<10	<10	<10	<5.0	<5.0	<5.0	NT	< 250	< 2500	< 2000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 4000	< 2000	30.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 2000	< 5.0
Benzene			< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	< 25	< 250	< 100	0.37 J	0.71	< 13	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 200	< 100	< 0.50	< 250	< 0.50	0.61	< 0.50	0.33 J	< 25	< 100	< 0.50
Bromodichloromethane			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0
2-Butanone (MEK)			< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	NT	< 250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 2000	< 1000	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 1000	< 5.0
Carbon disulfide			< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	< 2500	< 5.0	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.54 J	< 1000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0
Chlorobenzene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	< 250	< 100	< 1.0	0.52 J	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	0.52 J	< 1.0	< 1.0	< 25	< 100	< 1.0
Chloroethane			< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 100	< 5.0	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 200	< 2.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 200	< 2.0
Chloroform			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	< 380	< 100	2.1	3.4	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	13.3	< 380	2.1	4.6	1.7	3.4	< 38	< 100	< 1.0
Chloromethane			< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	NT	< 100	< 1200	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 200	< 2.0	< 1200	< 2.0	< 2.0	< 2.0	< 2.0	< 120	< 200	< 2.0
1,4-Dichlorobenzene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	< 1200	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 1200	< 1.0	< 1.0	< 1.0	< 1.0	< 120	< 100	< 1.0
1,1-Dichloroethane			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	22.2	13.0 J	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	15.9	< 380	11.4	12.0	8.5	12.7	< 38	< 100	1.0
1,2-Dichloroethane			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	103	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0
1,1-Dichloroethylene			< 1.0	0.46 J	1.1	1.5	<1.0	<1.0	<1.0	76.4	36.6 J	< 250	< 100	6.9	5.6	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	556 E	< 250	11.7	19.3	9.0	24.4	< 25	< 100	10.1
cis-1,2-Dichloroethylene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	102	78.9	< 250	< 100	< 1.0	1.9	< 25	< 1.0	0.56 J	< 1.0	< 1.0	< 1.0	0.43 J	2.3 J+	< 1.0	< 200	< 100	16.6	< 250	2.1	7.3	11.2	2.7	< 25	< 100	3.9
trans-1,2-Dichloroethylene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	< 50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0
1,2-Dichloropropane			< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 100	< 880	< 100	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 100	< 2.0	< 880	< 2.0	< 2.0	< 2.0	< 2.0	< 88	< 100	< 2.0
1,4-Dioxane			<25	<130	<130	<130	<250	<250	<250	NT	< 1300	NT	NT	< 25	< 25	< 630	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	NT	57700	NT	< 25	< 25 R	< 25	< 25	NT	NT	< 25
Ethylbenzene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0
2-Hexanone			< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 1000	5.3	NT	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 1000	< 5.0
4-Isopropyltoluene			< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 250	< 250	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	< 100	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 100	< 5.0
Methyl tert-butyl ether			< 1.0	<1.0	<1.0	1.0	<2.0	<2.0	<2.0	NT	< 50	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	66.4	< 200	< 100	< 1.0	< 5.0	< 1.0	0.71 J J+	< 1.0	0.74 J J+	< 5.0	< 100	< 1.0
Methylene chloride			< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 100	< 2500	< 1000	< 2.0	< 2.0	71.5	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2000	< 1000	12.2	< 2500	< 2.0	< 2.0	< 2.0	< 2.0	< 250	< 1000	< 2.0
Naphthalene			< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	NT	< 250	< 1200	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 200	< 5.0	< 5.0	< 1200	< 5.0	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0
Tert-amyl methyl ether			< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 100	NT	NT	< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	NT	NT	1.9 J	NT	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0
1,1,1,2-Tetrachloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 250	< 250	< 100	1.9 J	4.4 J	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	< 100	40.4	< 250	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 25	< 100	< 5.0
Tetrachloroethylene (PCE)			40.8	20.0	39.4	68.9	20.0	14.0	5.4	15500	11500	16000	16200	22100	51900	6550	400	427	606	176	141	280	391	< 1.0	49700	19500	7240	21000	16200	28300	31700 F+	48900	2000	7170	1730
Tetrahydrofuran			< 10	<10	<10	<10	<2.0	<2.0	<2.0	NT	< 50	NT	NT	< 10	< 10	< 250	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	NT	< 10	NT	< 10	< 10	< 10	< 10	NT	NT	< 10
Toluene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	< 380	< 100	0.62 J	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	1.8	< 380	0.61 J	0.47 J	< 1.0	0.36 J	< 38	< 100	< 1.0
1,1,1-Trichloroethane (TCA)			7.1	3.5	8.1	9.8	2.7	1.7	<1.0	1710	988	< 250	< 100	39.1	68.7	11.1 J	< 1.0	0.43 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1150	2070	7610	< 250	34.5	69.7 J+	31.4	27.9 J+	660	1550	158
1,1,2-Trichloroethane			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.66 J	< 50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	172	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0
Trichloroethylene (TCE)			1.5	0.81 J	1.5	2.2	<1.0	<1.0	<1.0	979	618	< 250	< 100	86.6	247	13.8 J	1.9	3.5	4.2	1.3	1.3	2.7	3.6	< 1.0	906	1440	7580	< 5.0	141	317	141	159	190	572	92.8
Vinyl chloride			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 50	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	0.55 J	< 5.0	< 100	< 1.0
m,p-Xylene			< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	NT	< 50	< 250	< 200	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 400	< 200	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 200	< 1.0
o-Xylene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0
Total Xylene			< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 50	ND	ND	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																			
Iron																																			
Manganese																																			
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																						NT											
Ethane	8015	µg/l																						NT											
Ethylene	8015	µg/l																						NT											
Alkalinity	E310.1	µg/l																						NT											
Chloride	E325.3	µg/l																						275000											
Chlorine, Total Residual	E330.4	µg/l																						< 50											
Iron, Ferrous	3500FE B	µg/l																						NT											
Nitrate & Nitrite as N	E353.2	µg/l																						NT											
Nitrogen, Nitrate	E353.2	µg/l																						NT											
Nitrogen, Nitrite	E354.1	µg/l																						NT											
Sodium	6010C	µg/l																						NT											
Sulfate	E375.4	µg/l																						NT											
Sulfide	E376.1	µg/l																						NT											
Surfactants	E425.1	µg/l																						NT											
Total Organic Carbon	E415.1	µg/l																						NT											

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location:			SH-MW2							SH-MW3													COBBLE-IR-1
Sample Name:			SH-MW-2	SH-MW2	SHMW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2	SH-MW3	SH-MW-3	SH-MW-3	SH-MW3	SHMW3	SHMW3	SHMW3	SHMW3	SH-MW3	SH-MW3	SH-MW3	SH-MW3	SH-MW3	COBBLE-IR-1
Well Screen Interval (ft bgs):			10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	10 to 24	Unknown
Sample Date:			10/4/06	1/16/07	4/16/07	7/19/07	4/28/17	4/4/18	4/16/19	7/8/02	5/23/06	10/4/06	1/17/07	4/12/07	4/15/08	4/13/10	4/21/11	4/16/12	4/23/13	4/30/14	4/2/15	6/25/07
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	SHA	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																					
Volatile Organic Compounds (VOCs)																							
Acetone	8260	µg/l	< 5.0	< 5.0	< 10	NT	<10	<10	<10	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 500	< 10	< 500	5.8
Benzene			< 0.50	< 0.50	< 1.0	NT	<0.50	<0.50	<0.50	< 250	< 0.50	< 0.50	< 50	< 0.50	< 500	< 0.50	< 50	< 25	< 25	< 0.50	< 25	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	0.32 J
2-Butanone (MEK)			< 5.0	< 5.0	< 10	NT	<10	<10	<10	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chloroethane			< 2.0	< 2.0	< 4.0	< 2.0	<1.0	<1.0	<1.0	< 5.0	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
Chloroform			< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	< 380	0.88 J	0.81 J	< 100	1.1	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	5.6
Chloromethane			< 2.0	< 2.0	< 4.0	NT	<1.0	<1.0	<1.0	< 1200	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	< 1200	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethane			20.9	5.7	< 2.0	12.4	<1.0	<1.0	<1.0	< 380	21.6	36.5	< 100	24.5	< 100	19.5	< 100	< 50	< 50	12.6	24.0 J	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethylene			45.0	9.8	2.1	23.8	0.65 J	<1.0	<1.0	< 250	91.0	84.4	< 100	91.3	< 100	14.2	< 100	< 50	< 50	12.5	<50	< 1.0
cis-1,2-Dichloroethylene			45.7	14.7	1.4 J	26.1	1.7	2.3	3.1	< 250	37.2	102	< 100	39.8	34.5 J	19.8	< 100	< 50	< 50	40.1	27.7 J	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	< 380	< 1.0	1.1	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 4.0	NT	<1.0	<1.0	<1.0	< 880	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dioxane			< 25 R	< 25	< 5.0	NT	<130	<130	<130	NT	< 25	< 25 R	< 2500	< 25	< 2500	< 25	< 2500	< 1300	< 2600	< 25 K-	<1300	< 25
Ethylbenzene			< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	< 250	< 1.0	< 1.0	180	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
2-Hexanone			< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0	< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Methyl tert-butyl ether			8.7 J+	1.4	< 2.0	NT	<1.0	<1.0	<1.0	< 5.0	5.1	8.2 J+	< 100	2.4 J+	< 100	0.83 J	< 100	< 50	< 50 K-	< 1.0	< 50	< 1.0
Methylene chloride			< 2.0	< 2.0	2.3 J	NT	<2.0	<2.0	<2.0	< 2500	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	450	< 100	< 100	< 2.0	< 100	< 2.0
Naphthalene			< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0	< 1200	< 5.0	< 5.0	392 J	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 4.0	NT	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0 F+	< 10	NT	<1.0	<1.0	<1.0	< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	<50	< 5.0
Tetrachloroethylene (PCE)			7190	2880 F+	726	3320	365	459	439	26000	16900	28300	29700	34000	15200	20300	16900	7310	9650	14500	12800	< 1.0
Tetrahydrofuran			< 10	< 10	< 20	NT	<10	<10	<10	NT	< 10	< 10	< 1000	< 10	< 1000	< 10	< 1000	< 500	< 500	< 10 G	< 500	< 10
Toluene			< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1,1-Trichloroethane (TCA)			1330	360	44.1	539	6.8	7.9	14.8	1200	989	1680	806	621 E J+	119	19.8 J	< 100	83.0	< 50	48.0	49.9 J	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Trichloroethylene (TCE)			486	171	26.5	354	13.2	14.8	16.7	870	482	1030	709	1030	306	383.0	342	152	157	231	218	< 1.0
Vinyl chloride			< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 100	0.83 J	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	< 250	< 1.0	< 1.0	484	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
o-Xylene			< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Total Xylene			< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0	ND	< 1.0	< 1.0	543	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic									NT				< 10									
Iron									NT				255									
Manganese									<15				NT									
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																						
Others			NT	NT	NT	NT	NT	NT		NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l							0.21				< 10									
Ethane	8015	µg/l							<0.23				< 10									
Ethylene	8015	µg/l							<0.31				< 10									
Alkalinity	E310.1	µg/l							143000				208000									
Chloride	E325.3	µg/l							38600				362000									
Chlorine, Total Residual	E330.4	µg/l							<100				NT									
Iron, Ferrous	3500FE B	µg/l							<200				NT									
Nitrate & Nitrite as N	E353.2	µg/l							2600				1900									
Nitrogen, Nitrate	E353.2	µg/l							2600				1900									
Nitrogen, Nitrite	E354.1	µg/l							<10				30									
Sodium	6010C	µg/l							NT				NT									
Sulfate	E375.4	µg/l							62900				62600									
Sulfide	E376.1	µg/l							<2000				< 2000									
Surfactants	E425.1	µg/l							<100				< 100									
Total Organic Carbon	E415.1	µg/l							1900				< 1000									

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 4-3. Chemical Testing Results - GLX Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	KE-114		KE-115		KE-116		KE-117			MW-5R	WashSW[(b)]	KE-202D
		Sample Name:	KE-114	KE-114	KE-115	KE-115	KE-116	KE-116	KE-117	KE-117[(a)]	KE-117	MW-5R	WashSW[(b)]	KE-202D
		Well Screen Interval (ft bgs):	5 to 30	5 to 30	5 to 30	5 to 30	5 to 30	5 to 30	5 to 20	5 to 20	5 to 20	5 to 30	Vac-Ex	~25 to 35
		Sample Date:	9/27/12	2/6/14	9/27/12	2/6/14	9/27/12	2/6/14	9/27/12	2/6/14	4/9/14	2/6/14	2/6/14	4/8/14
		Collected By:	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**												
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l												
Acetone			< 10	< 10	< 10	< 10	< 10	< 10	56	< 10	< 20	< 10	< 10	< 20
Benzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	3.8	< 1.0	< 1.0	< 1.0	< 1.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	73	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	12	< 1.0	< 1.0	4.4	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	8.0	< 1.0	< 1.0	1.8	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	1.8	1.0	< 1.0	< 1.0	< 5.0	410	2.8	< 1.0	26	12
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	7.2	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	1.4	2.4	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	760	4.3	< 1.0	2000	33
Tetrahydrofuran			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	3.3	< 2.0
Toluene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	11	< 1.0	< 1.0	13	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 5.0	150	1.2	< 1.0	38	5.0
1,2,4-Trimethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0
Vinyl chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	19	< 2.0	< 2.0	< 2.0	< 2.0
m,p-Xylene			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	37	< 2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 2.0	< 1.0	19	< 2.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.
(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 4-3. Chemical Testing Results - GLX Groundwater Sampling
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	KE-202S	KE-204	KE-205	KE-206	KE-207	KE-208	KE209	KE-210	GLC-WASH-MW-4	GLC-WASH-MW-2
		Sample Name:	KE-202S	KE-204	KE-205	KE-206	KE-207	KE-208	KE209	KE-210	GLC-WASH-MW-4-082520	GLC-WASH-MW-2-082520
		Well Screen Interval (ft bgs):	5 to 20	15 to 25	9.5 to 19.5	10 to 21	8 to 18	4 to 14	9 to 19	8.5 to 18.5	15-30	15-30
		Sample Date:	4/8/14	4/14/14	4/15/14	4/14/14	4/15/14	4/14/14	4/15/14	4/15/14	8/25/20	8/25/20
		Collected By:	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	TRC	TRC
Analyte	**Method**	**Units**										
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l										
Acetone			< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NT	NT
Benzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT
1,1-Dichloroethane			< 1.0	3.4	< 1.0	6.0	< 1.0	< 1.0	< 1.0	1000	NT	NT
1,1-Dichloroethylene			< 1.0	2.6	< 1.0	4.6	< 1.0	< 1.0	< 1.0	790	NT	NT
cis-1,2-Dichloroethylene			< 0.40	83	< 1.0	89	< 1.0	1.2	< 1.0	8.4	<1.0	<1.0
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	71	NT	NT
Tetrachloroethylene (PCE)			< 1.0	14000	1.0	12000	2.5	73	< 1.0	14000	11	11
Tetrahydrofuran			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT
1,1,1-Trichloroethane (TCA)			< 1.0	16	< 1.0	35.0	< 1.0	< 1.0	< 1.0	860	NT	NT
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8	NT	NT
Trichloroethylene (TCE)			< 1.0	81.0	< 1.0	86.0	< 1.0	2.0	< 1.0	24000	1.6	<1.0
1,2,4-Trimethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT
Vinyl chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	3.6	<1.0	<1.0
m,p-Xylene			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT
o-Xylene			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.
(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 4-4. Chemical Testing Results - Sub-Slab Soil Vapor
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
9 Knowlton Street
Somerville, Massachusetts

		Location Name:	**9 Knowlton Street**					
		Sample Name:	**9 KNOW-SS1**		**9 KNOW-SS1**		**9 KNOW-SS1**	
		Sample Date:	**2/28/07**		**11/30/09**		**6/9/22**	
		Units:	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m³)**						
Volatile Organic Compounds (VOCs)	TO-15							
Carbon tetrachloride		38	2.3	0.37	2.3	0.37	NT	NT
1,1,1-Trichloroethane		210	0.76 J	0.14 J	< 1.1	< 0.20	<1.09	<0.200
Tetrachloroethylene (PCE)		98	199	29.3	206	30.4	9.49	1.4

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. Residential Sub-Slab Soil Gas Screening Values taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.

Table 4-5. Chemical Testing Results - Indoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
9 Knowlton Street
Somerville, Massachusetts

			Sample Location:	9 Knowlton Street							
			Sample Name:	045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B	
			Sample Date:	5/21/07		5/21/07		6/9/22		6/9/22	
			Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**									
Volatile Organic Compounds (VOCs)	TO-15										
1,1-Dichloroethylene		0.8		< 0.81 J	< 0.20 J	0.63 J	0.16 J	<0.079	<0.020	<0.079	<0.020
cis-1,2-Dichloroethylene		0.8		< 0.79 J	< 0.20 J	**1.5**	0.390	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)		1.4		**94.3 G**	13.9 G	**366 G**	54.0 G	0.319	0.047	**4.46**	0.657
1,1,1-Trichloroethane		3		1.3	0.23	**4.4**	0.810	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)		0.4		**1.3**	0.24	**3.9**	0.720	<0.107	<0.020	<0.107	<0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. Residential Threshold Values taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
6. Values in bold exceed the applicable MassDEP Residential Threshold Values.

Table 4-6. Summary of Meteorological Data During Air Sampling Events
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Sample Location	Sample Date	Sample Location	Outside Temperature (ºF)[1,3]		Outside Barometric Pressure (in. Hg)[2,4]		Prevailing Wind Direction		General Weather Conditions		Significant precipitation within 12 hours prior to Sampling?
			Start	End	Start	End	Start	End	Start	End	
Residences											
9 Knowlton Street	6/9/2022	9Knowl-B	80	79	29.96	29.52	West	East	Sunny	Sunny	No
		9Knowl-1									
		9Knowl-SV1	79		29.52		East		Sunny		No

General Notes:
1. ºF = degrees Fahrenheit.
2. in. Hg = inches of mercury.
3. Temperatures were measured in the field using a hand-held thermometer.
4. Barometric pressures were measured in the field with a digital barometer.
5. NM = Not Measured.
6. NA = Not Applicable.

Table 5-1. Summary of SSDS Monitoring Events - Capuano Center
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
7/14/2022	1	SSDS Quarterly Monitoring	-Pressure readings, VOC concentrations, and flow rate at each manifold pipe. -Pressure readings, VOC concentrations, and flow rate at all the exterior extraction pipes.	No
10/18/2022	2	SSDS Quarterly Monitoring	-Pressure readings, VOC concentrations, and flow rate at each manifold pipe. -Pressure readings, VOC concentrations, and flow rate at all the exterior extraction pipes.	No

General Notes:

1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VOC measurements collected with a ppm-RAE calibrated to 100 parts per million (ppm) isobutylene.
5. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Cafetorium		Room 101				Room 108				Room 121		Room 122						Room 125				Room 126					
Sample ID:		150 GLEN-CAF		150 GLEN-ROOM 101A		150 GLEN-ROOM 101B		150 GLEN-ROOM 108A		150 GLEN-ROOM 108B		150 GLEN-ROOM 121		150 GLEN-ROOM 122		150 GLEN-RM 122		150 GLEN-RM 122		150 GLEN-ROOM 125A		150 GLEN-ROOM 125B		150 GLEN-ROOM 126		150 GLEN-ROOM 100 (FD-Room 126)		150 GLEN-RM 126	
Sample Date:		1/6/07		12/27/06		12/28/06		12/27/06		12/28/06		1/6/07		1/6/07		2/7/07		5/23/15		12/27/06		12/28/06		1/13/07		1/13/07		2/7/07	
Units:		µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.49 J J+	0.078 J J+	< 1.3	< 0.20	< 1.3	< 0.20	0.94 J	0.15 J	< 1.3	< 0.20	0.52 J J+	0.082 J J+	0.51 J	0.081 J J+	0.69 J	0.11 J	NT	NT	1.0 J	0.16 J	< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	0.94 J	0.15 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		0.88 J J+	0.13 J J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.88 J	0.13 J	0.75 J	0.11 J	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 126 (continued)																									
Sample ID:		150GLEN-ROOM 126		150 GLEN-ROOM 126		150 GLEN-RM 126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126	
Sample Date:		3/8/07		4/20/07		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/172008		4/21/08	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.60 J	0.095 J	0.69 J	0.11 J	0.82 J	0.13 J	< 1.3	< 0.20	0.69 J	0.11 J	0.59 J	0.093 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.0 J	0.15 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 126 (continued)																		Room 134						Room 136		Room 137			
Sample ID:		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150 GLEN-ROOM 134		150 GLEN-RM 134		150 GLEN-RM 134		150 GLEN-ROOM 136		150 GLEN-ROOM 137A		150 GLEN-ROOM 137B	
Sample Date:		8/18/08		11/24/08		3/2/09		8/27/09		11/11/09		2/19/10		11/11/10		3/17/11		5/23/15		1/13/07		2/7/07		5/23/15		1/13/07		1/6/07		1/6/07	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		0.60 J	0.096 J	0.60 J	0.096 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	0.75 J	0.12 J	0.94 J	0.15 J	NT	NT	0.69 J	0.11 J	0.52 J J+	0.082 J J+	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	3.2	0.47	< 1.4	< 0.20	< 1.4	< 0.20	2.1	0.31	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	0.54 J	0.10 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.
7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 138																									
Sample ID:		RM138		150 GLEN-ROOM 138		150 GLEN-ROOM 138		150 GLEN-ROOM 138		150 GLEN-ROOM 138 (Alpha duplicate)		150 GLEN-RM 138		150 GLEN-RM 139 (FD-Room 138)		150GLEN-ROOM 138		150GLEN-ROOM 139 (FD-Room 138)		150 GLEN-ROOM 138		150GLEN-ROOM 139 (FD-Room 138)		150 GLEN-RM 138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138	
Sample Date:		1/2/07		1/6/07		1/13/07		1/26/07		1/26/07		2/7/07		2/7/07		3/8/07		3/8/07		4/20/07		4/20/07		5/17/07		5/17/07		7/30/07	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		< 1.3	< 0.20	0.49 J J+	0.078 J J+	0.82 J	0.13 J	0.82 J	0.13 J	< 0.126	< 0.020	0.75 J	0.12 J	0.52 J	0.082 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.61 J	0.097 J
Dichloroethane,1,1-		0.45 J	0.11 J	0.77 J J+	0.19 J J+	0.57 J	0.14 J	0.65 J	0.16 J	< 0.081	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.079	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	2.1 J+	0.54 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	0.83 J+	0.21 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.0819	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+
Tetrachloroethylene (PCE)		14	2.0	60 J+	8.8 J+	20	3.0	20	3.0	32.6	4.8	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.17 J
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		2.3	0.42	7 J+	1.3 J+	3.1	0.57	3.3	0.61	4.26	0.794	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.
7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 138 (continued)																									
	Sample ID:	150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM239 (FD-Room 138)		150GLEN-RM238 (FD-Room 138)		150GLEN-RM138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM238 (FD-Room 138)		150GLEN-RM239 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
	Sample Date:	7/30/07		9/10/07		9/10/07		10/8/07		10/8/07		10/8/07		10/8/07		10/14/07		10/14/07		10/14/07		10/14/07		11/15/07		11/15/07		12/13/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		0.69 J	0.11 J	0.69 J	0.11 J	0.69 J	0.11 J	0.69 J	0.11 J	0.88 J	0.14 J	0.82 J	0.13 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.59 J	0.094 J	0.62 J	0.099 J	0.69 J	0.11 J	0.69 J	0.11 J	0.57 J	0.091 J
Dichloroethane,1,1-		< 0.81 J+	< 0.20 J+	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81 J+	< 0.20 J+	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79 J+	< 0.20 J+	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79 J+	< 0.20 J+	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		1.1 J	0.16 J	< 1.4 J+	< 0.20 J+	6.5	0.96	< 1.4	< 0.20	1.5	0.22	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1 J+	< 0.20 J+	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1 J+	< 0.20 J+	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 138 (continued)																									
Sample ID:		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
Sample Date:		12/13/07		1/21/08		1/21/08		2/19/08		2/19/08		2/22/08		2/22/08		3/17/08		3/17/08		4/21/08		4/21/08		8/18/08		8/18/08		11/24/08	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.75 J	0.12 J	0.69 J	0.11 J	0.69 J	0.11 J	0.63 J	0.10 J	0.62 J	0.098 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.8	0.27	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 138 (continued)																											
Sample ID:		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
Sample Date:		11/24/08		3/2/09		3/2/09		8/27/09		8/27/09		11/11/09		11/11/09		2/19/10		2/19/10		11/11/10		11/11/10		3/17/11		3/17/11		5/23/15	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.53	< 0.13	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.52	< 0.13	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.37	< 0.094	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 0.82	< 0.12	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 0.95	< 0.14	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 0.76	< 0.14	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 0.70	< 0.13	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 141																									
Sample ID:		150 GLEN-ROOM 141		150GLEN-ROOM 141		150 GLEN-ROOM 141		150 GLEN-RM 141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141	
Sample Date:		1/6/07		3/8/07		4/20/07		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		0.45 J J+	0.071 J J+	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3 J+	< 0.20 J+	0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 141 (continued)																Room 142													
Sample ID:		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		RM142		150 GLEN-ROOM 142		150 GLEN-RM 142		150GLEN-ROOM 142		150 GLEN-ROOM 142		150 GLEN-RM 142		150GLEN-RM142	
Sample Date:		4/21/08		8/18/08		11/24/08		3/2/09		8/27/09		2/19/10		11/11/10		3/17/11		1/2/07		1/6/07		2/7/07		3/8/07		4/20/07		5/17/07		7/30/07	
Analyte	Units: Method	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		0.69 J	0.11 J	0.60 J	0.096 J	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	< 1.3	< 0.20	0.52 J J+	0.083 J J+	0.82 J	0.13 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.63 J	0.10 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	1.4	0.35	1.2 J+	0.29 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	1.0	0.25
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	0.87	0.22	2.5 J+	0.63 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	28	4.1	45 J+	6.6 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	0.33 J J+	0.061 J J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	0.62 J	0.092 J	0.62 J	0.092 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	3.7	0.69	5.4 J+	1 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 142 (cont)																											
Sample ID:		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142	
Sample Date:		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08		4/21/08		8/18/08		11/24/08		3/2/09		8/27/09		11/11/09	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.75 J	0.12 J	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 142 (continued)								Room 144				Room 145		Room 146													
Sample ID:		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150 GLEN-ROOM 144		150 GLEN-ROOM 144 (Alpha duplicate)		150 GLEN-ROOM 145		150 GLEN-ROOM 146A		150 GLEN-ROOM 146B		150 GLEN-ROOM 146B (FD-Room 146)		RM146		150 GLEN-ROOM 146		150 GLEN-RM 146		150GLEN-ROOM 146		150 GLEN-ROOM 146	
Sample Date:		2/19/10		11/11/10		3/17/11		5/23/15		1/13/07		1/13/07		1/6/07		12/27/06		12/28/06		12/28/06		1/2/07		1/6/07		2/7/07		3/8/07		4/20/07	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	0.88 J	0.14 J	< 3.14	< 0.50	0.45 J J+	0.071 J J+	1.1 J	0.18 J	< 1.3	< 0.20	0.49 J	0.078 J	0.63 J	0.10 J	< 1.3	< 0.20	0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 2.02	< 0.50	< 0.81	< 0.20	10	2.5	3.6	0.88	3.3	0.82	0.53 J	0.13 J	0.57 J J+	0.14 J J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 1.98	< 0.50	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 1.98	< 0.50	< 0.79	< 0.20	7.9	2.0	4.0	1.0	3.9	0.99	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 2.02	< 0.50	< 0.79	< 0.20	3.3	0.83	1.3	0.33	1.2	0.31	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 2.0	< 0.50	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	4.1	0.61	4.36	0.643	< 1.4	< 0.20	186	27.5	83.4	12.3	85.4	12.6	11	1.6	26 J+	3.8 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.1	< 0.20	< 2.72	< 0.50	< 1.1	< 0.20	2.1	0.38	0.82 J	0.15 J	0.71 J	0.13 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	1.3	0.24	< 2.68	< 0.50	< 1.1	< 0.20	37	6.8	10	1.9	11	2.1	1.7	0.32	3.0 J+	0.56 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.
7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 146 (continued)																									
Sample ID:		150 GLEN-RM 146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146	
Sample Date:		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08		4/21/08		8/18/08		11/24/08	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		< 1.3	< 0.20	0.62 J	0.099 J	0.82 J	0.13 J	< 1.3	< 0.20	0.58 J	0.092 J	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.62 J	0.098 J	< 1.3	< 0.20	0.75 J	0.12 J	0.60 J	0.096 J	0.63 J	0.10 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	0.49 J	0.12 J	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4 +	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	1.0 J	0.15 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 146 (continued)														Outside of School by Room 126 Window						Outside of School by Day Care Window					
Sample ID:		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150 GLEN-0-1A		150 GLEN-0-1B		150 GLEN-0-1A		150 GLEN-0-2A		150 GLEN-0-2B		150 GLEN-0-2A	
Sample Date:		3/2/09		8/27/09		11/11/09		2/19/10		11/11/10		3/17/11		5/23/15		12/27/06		12/28/06		1/6/07		12/27/06		12/28/06		1/6/07	
Units:		µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	< 1.3	< 0.20	< 1.3	< 0.20	0.52 J J+	0.083 J J+	1.1 J	0.17 J	< 1.3	< 0.20	0.52 J J+	0.082 J J+
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	0.93 J	0.17 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Downwind on Roof																					
	Sample ID:	150 GLEN-ROOF B		150 GLEN-ROOF B		150GLEN-ROOF		150 GLEN-ROOF		150 GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF	
	Sample Date:	2/8/07		2/8/07		3/8/07		4/20/07		5/17/07		8/9/07		9/10/07		10/14/07		11/14/07		12/17/07		1/21/08		2/19/08	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																								
Volatile Organic Compounds (VOCs)	TO-15																								
Carbon tetrachloride		< 1.3	< 1.3	< 0.20	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.81	< 0.20	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.81	< 0.20	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.79	< 0.20	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.79	< 0.20	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 1.4	< 0.20	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 1.4	< 0.20	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.2	< 1.2	< 0.21	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21
Trichloroethylene (TCE)		< 1.1	< 1.1	< 0.20	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 5-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Capuano Center
150 Glen Street
Somerville, Massachusetts

		Sample Location:	Downwind on Roof (cont)											
		Sample ID:	150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF	
		Sample Date:	3/17/08		4/21/08		8/18/08		11/24/08		8/27/09		11/11/09	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**													
Volatile Organic Compounds (VOCs)	TO-15													
Carbon tetrachloride			< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-			< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-			< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-			< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-			< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-			< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)			< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)			< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)			< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 6-1. Exposure Pathway Mitigation Measure (EPMM) Status
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Property Address	EPMM Design Option	Date Completed or Last Modified	Date of Last Indoor Air Monitoring	Construction Details												
				Ventilation Fan(s) (Model No.)[a]	Number of Sub-Slab Vapor Extraction Points (SSDS)	Sub-slab Vapor Barrier - HDPE Liner	Sub-Slab Ventilation System - Geocomposite	Sub-Slab Vapor Trench	Foundation Wall Ventilation System - Geocomposite	New Basement Slab Installed	Crawlspace Vapor Barrier	Epoxy Vapor Barrier - Floor	Epoxy Vapor Barrier - Foundation Walls	Telemetry Installed (if necessary)	Reason Telemetry not Installed (if applicable)	AUL Recorded (Yes/No)
91-93 Franklin Street	3	March, 2009	3/1/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
95 Franklin Street	2/1[b]	May, 2011	5/16/2013	GP-501	-	-	-	Yes	-	-	Yes	Yes	Yes	Yes	-	No
95R Franklin Street	2	December, 2007	3/8/2010	-	-	-	-	Yes	Yes	-	Yes	Yes	Yes	-	-	Yes
150 Glen Street	1	April, 2015	5/23/2015	GP-501 (3)	18	-	-	-	-	-	-	-	-	Yes	-	No
163 Glen Street	2[c]	July, 2018	8/18/2020	-	-	Yes	-	Yes	-	Yes	-	-	-	-	-	No
166-168 Glen Street	3	November, 2010	3/1/2012	-	-	Yes	Yes	-	-	Yes	Yes	Yes	Yes	-	-	Yes
9 Knowlton Street	1	January, 2010	6/9/2022	GP-501	5	-	-	-	-	-	-	-	-	No	Refused access	Yes
13 Knowlton Street	1	January, 2010	11/21/2019	GP-501	4	-	-	-	-	-	-	-	-	Yes	-	Yes
17 Knowlton Street	3	March, 2009	3/7/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
31-33 Knowlton Street	1	February, 2008	3/19/2010	HS-5000	7	-	-	-	-	-	-	-	-	Yes	-	No
32 Knowlton Street	3	May, 2009	3/8/2011	-	-	-	-	-	-	-	-	-	-	-	-	Yes
34 Knowlton Street	3	June, 2014	4/27/2015	-	-	Yes	-	-	-	Yes	-	-	-	-	-	Yes
35-37 Knowlton Street	3/1[b]	April, 2010	3/11/2011	GP-501	-	Yes	Yes	-	-	Yes	-	Yes	Yes	Yes	-	No
4 Morton Street	3	November, 2008	3/20/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	No
10 Morton Street	3	March, 2009	3/5/2011	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
11 Morton Street	2	November, 2008	5/26/2021	-	-	-	-	Yes	Yes	-	-	Yes	Yes	-	-	Yes
12 Morton Street	3	March, 2008	11/19/2010	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
13 Morton Street	1	October, 2008	9/17/2014	GP-501	5	-	-	-	-	-	-	-	-	Yes	-	No
18 Morton Street	1	July, 2007	2/24/2011	GP-501	5	-	-	-	-	-	-	-	-	Yes	-	No
19-19A Morton Street	3	August, 2009	3/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	Yes
23 Tufts Street	1	May, 2007	2/25/2010	GP-501	1	-	-	-	-	-	-	-	-	Yes	-	No
27 Tufts Street	3/1[b]	May, 2011	5/23/2013	GP-501	-	Yes	Yes	-	-	Yes	Yes	Yes	Yes	Yes	-	No
50 Tufts Street	1	August, 2007	3/11/2015	Regenerative Blower	22	-	-	-	-	-	-	Yes	-	Yes	-	No
60 Tufts Street	1	April, 2009	4/25/2019	Regenerative Blower	14	-	-	-	-	-	-	-	-	Yes	-	No

General Notes:
1. NS = Not sampled.
2. - = Not Applicable.

Footnotes:
(a) Ventilation fans manufactured by Radon Away.
(b) An Option 2 or 3 EPMM was initially installed at these properties; however, a fan was added to the EPMM to improve performance. Therefore, these EPMMs consist of Option 1 with Option 2 or 3 EPMM elements.
(c) EPMM demonstrated to be no longer required based on testing requirements in the MassDEP Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy #WSC-16-435 (Section 3.7 and Tables 3-1 and 3-2).

Table 6-2. Indoor Air Sampling and EPMM Monitoring - June 16, 2022 through December 15, 2022
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
Residential and Commercial Properties
Somerville, Massachusetts

Property	Property Type	Indoor Air Sampling[1]	EPMM Inspection3
91-93 Franklin Street	Residential	Not Sampled	NA
95 Franklin Street	Residential	Not Sampled	08/18/22
95R Franklin Street	Residential	Not Sampled	NA
166-168 Glen Street	Residential	Not Sampled	08/18/22
9 Knowlton Street	Residential	06/09/22	NA
13 Knowlton Street	Residential	Not Sampled	11/30/22
17 Knowlton Street	Residential	Not Sampled	NA
32 Knowlton Street	Residential	Not Sampled	08/17/22
34 Knowlton Street	Residential	Not Sampled	NA
31-33 Knowlton Street	Residential	Not Sampled	8/18/2022
35-37 Knowlton Street	Residential	Not Sampled	NA
4 Morton Street	Residential	Not Sampled	NA
10 Morton Street	Residential	Not Sampled	NA
11 Morton Street	Residential	Not Sampled	NA
12 Morton Street	Residential	Not Sampled	NA
13 Morton Street	Residential	Not Sampled	NA
18 Morton Street	Residential	Not Sampled	11/30/2022
19-19A Morton Street	Residential	Not Sampled	NA
23 Tufts Street	Residential	Not Sampled	NA
27 Tufts Street	Residential	Not Sampled	NA

General Notes:

1. EPMM = Exposure Pathway Mitigation Measure.
2. See Appendix E for Air Sampling Checklists and Appendix G for EPMM forms.
3. See Section 6 for a description of EPMM Inspection activities. 60 Tufts Street EPMM is inspected quarterly; see Section 7.
4. NA = No inspection was performed during this reporting period.
5 SSDS = Sub-slab depressurization system.

Table 7-1. Summary of SSDS Monitoring Events - 60 Tufts Street
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
7/14/2022	1	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at system influent/effluent and blower. -System flow rate.	No
10/18/2022	2	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at system influent/effluent and blower. -System flow rate.	No

General Notes:

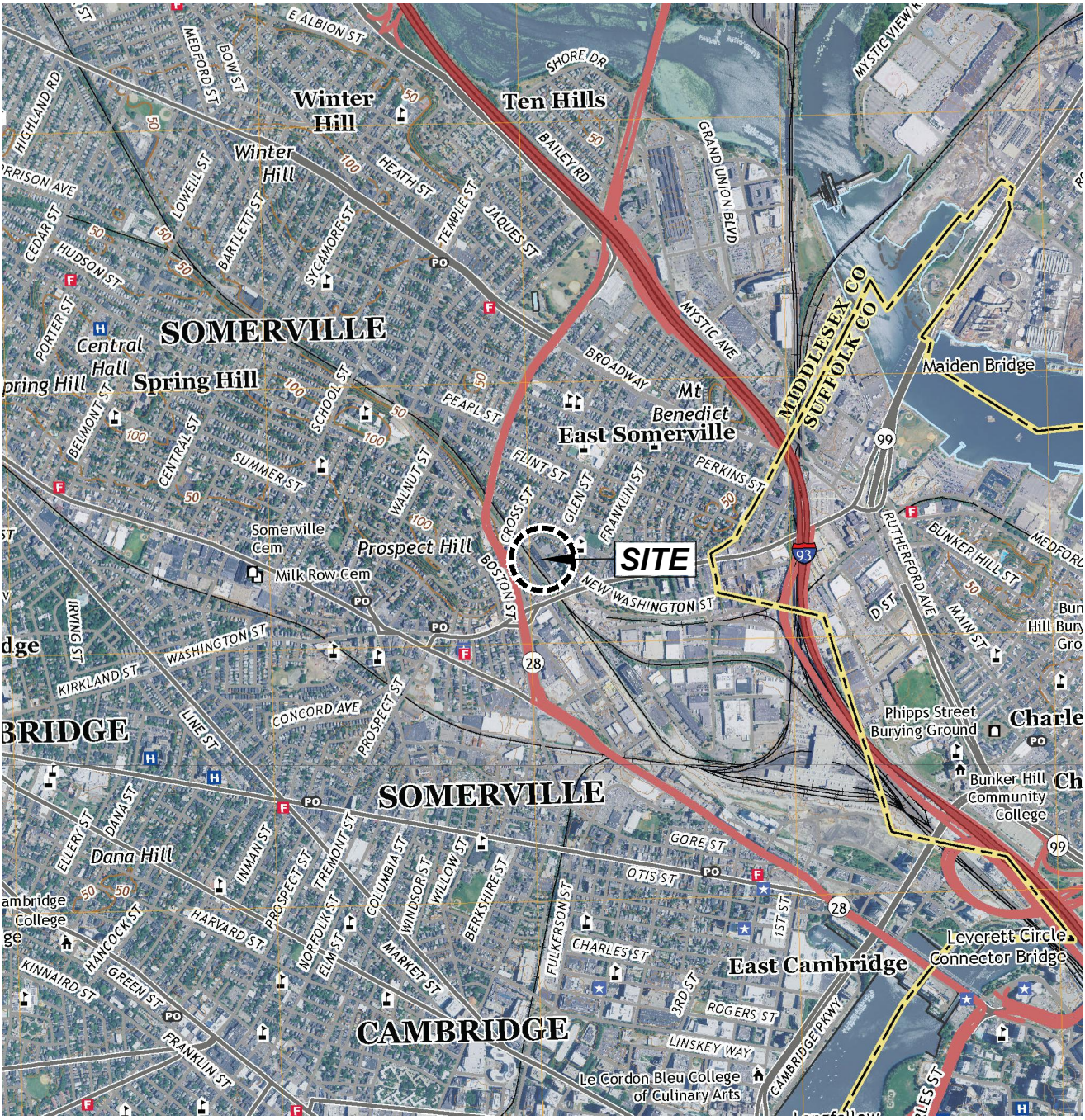
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VOC measurements collected with a ppm-RAE calibrated to 100 ppm isobutylene gas.
5. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 8-1. Summary of SSDS Monitoring Events - 50 Tufts Street
Phase V Status Report No. 23 and Remedial Monitoring Report No. 38
50 Tufts Street
Somerville, Massachusetts

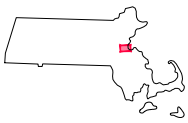
Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
7/14/2022	1	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at the combined influent, and effluent pipes. -Pressure readings and VOC concentrations at carbon tanks. -System flow rate.	No
8/18/2022	2	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
9/15/2022	3	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
10/18/2022	4	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at the combined influent, and effluent pipes. -Pressure readings and VOC concentrations at carbon tanks. -System flow rate.	No
11/17/2022	5	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VFD = Variable Flow Drive.
5. SVT/SVE = Soil Vapor Temporary Point/Soil Vapor Extraction.
6. VOC measurements collected with a ppm-RAE calibrated to 100 parts per million (ppm) with 10.6V lamp.
7. Pressure readings collected using a Dwyer 475-000-FM manometer.

Figures



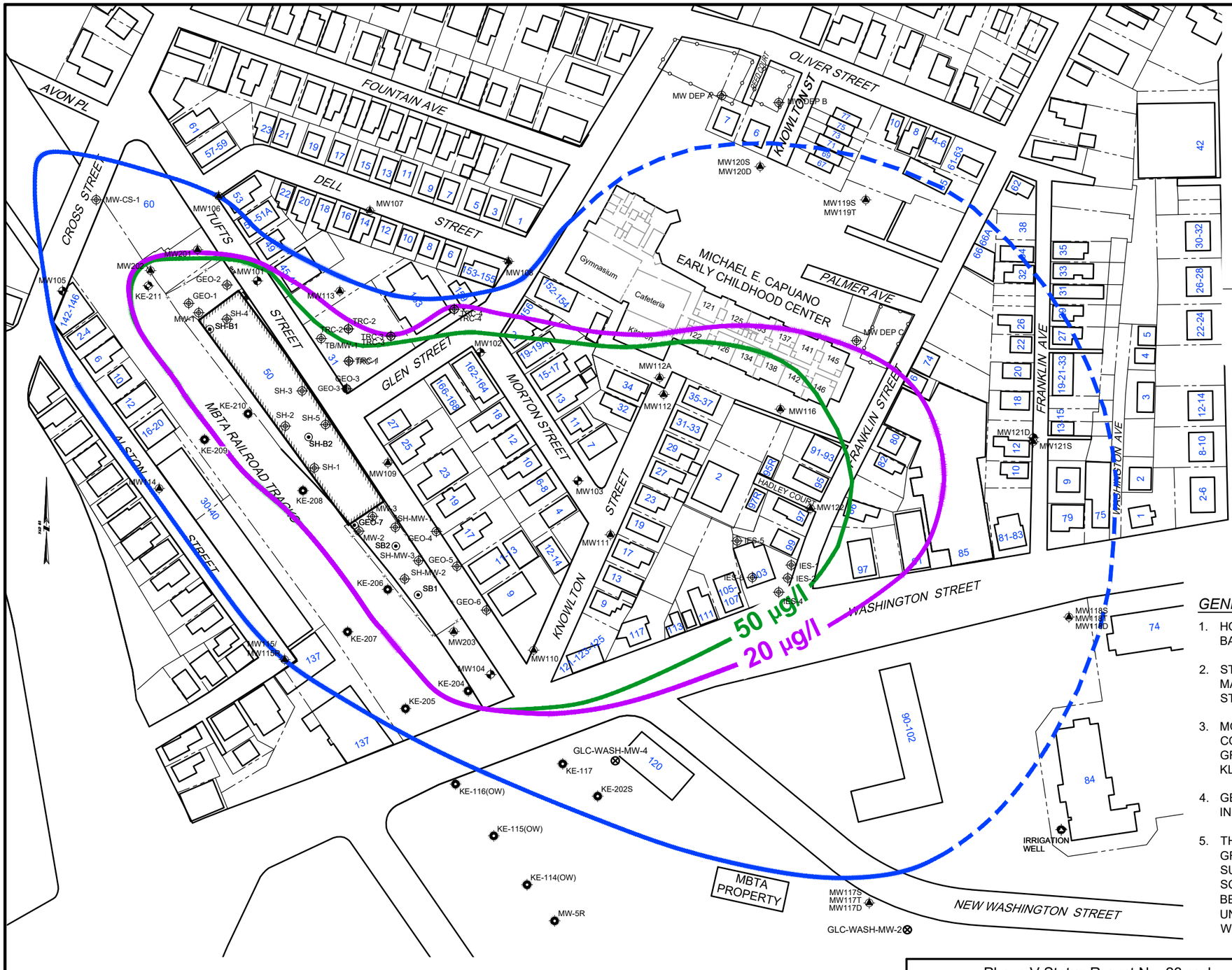
This Image is from U.S.G.S. Topographic 7.5 Minute Series
Boston North, MA Quadrangle, 2018.
Datum is North American Vertical Datum of 1988 (NAVD88).
Contour Interval is 10 Feet.



MASSACHUSETTS
QUADRANGLE LOCATION

Phase V Status Report No. 23 and Remedial Monitoring Report No. 38 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE LOCATION MAP
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	February 2023 Fig. 1

B:\Private\04516\#Drafting\04516-3\Phase V SRs & RMRs\045163 Ph V SR Fig 1-1 slm



LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 50 µg/l
- µg/l = MICROGRAMS PER LITER

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER.
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
5. THE 20 µg/l AND 50 µg/l BOUNDARY LINES ARE BASED ON SHALLOW GROUNDWATER ANALYTICAL RESULTS (0 TO 15 FEET BELOW GROUND SURFACE) COLLECTED THROUGH NOVEMBER 2022. KE-204 IS A WELL SCREENED GREATER THAN 15 FEET BELOW GROUND SURFACE, BUT HAS BEEN INCLUDED IN THE 20 µg/l AND 50 µg/l BOUNDARY LINES BECAUSE OF UNCERTAINTY ON THE SHALLOW GROUNDWATER CONCENTRATIONS WITHIN THE IMMEDIATE VICINITY OF THIS WELL.

Phase V Status Report No. 23 and
Remedial Monitoring Report No. 38
50 Tufts Street Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

DISPOSAL SITE MAP AND SITE BOUNDARY

Project 04516-3 | February 2023 | Fig. 1-2

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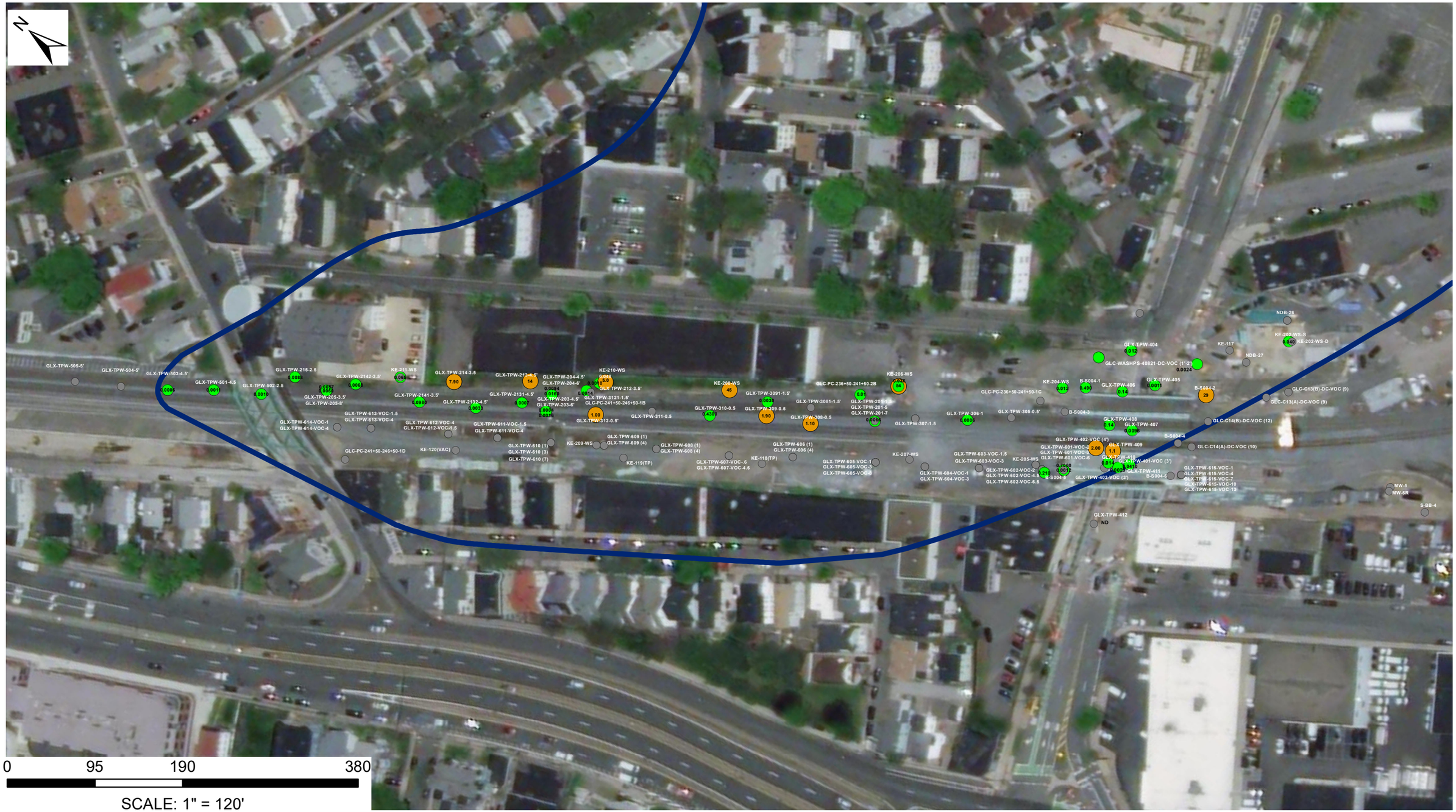

LEGEND

PCE CONCENTRATIONS

- Not Detected
- Less than RCS-1
- 0.65 Greater than RCS-1 (1 mg/kg) (Detected concentration presented in mg/kg)

DISPOSAL SITE BOUNDARY

NOTES

1. Historic soil characterization samples reportedly collected between 2010 and 2014 by Vanasse Hangen Brustlin, Inc., Nobis Group, and Kleinfelder, Inc. Source: Green Line Extension Project Release Abatement Measure (RAM) Plan Historic Fill and Soil Impacted by Railroad Operations - Special Project Designation, dated February 2015 (Kleinfelder).

2. More recent soil characterization samples collected between 2018 and 2020 by TRC Companies, Inc.

Phase V Status Report No. 23 and
Remedial Monitoring Report No. 38
50 Tufts Street Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

KLEINFELDER SOIL DATA AND GLX PROJECT PRE-CHARACTERIZATION SAMPLES

Project 04516-3 | February 2023 | Fig. 2-1

B:\Private\04516\22.0 GLX Project\2019 GLX\2020 GLX Soil Management Eval\Soil Eval_wPCEconc_July2021.mxd

LEGEND:

- MONITORING WELL INSTALLED BY TRC, 2014
- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY OTHERS
- PREVIOUSLY INSTALLED IRRIGATION WELL
- GLXC WELL INSTALLED AUGUST 2020
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- MONITORING WELL SAMPLED BY GEI DURING THIS REPORTING PERIOD

GENERAL NOTES:

1. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
2. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
3. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. STREET PROPERTY LINES, AND BUILDINGS ARE BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

Phase V Status Report No. 23 and
Remedial Monitoring Report No. 38
50 Tufts Street Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

MONITORING WELL LOCATIONS

Project 04516-3 | February 2023 | Fig. 4-1

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LEGEND:

SOIL VAPOR SAMPLED

INDOOR AIR SAMPLED

0 60 120 240

SCALE, FEET

Phase V Status Report No. 23 and
Remedial Monitoring Report No. 38
50 Tufts Street, Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

SUB-SLAB SOIL VAPOR AND
INDOOR AIR SAMPLING

Project 04516-3 | February 2023 | Fig. 4-2

B:\Private\04516\20.0 GIS Data\Map_Files\Phase IV Status Fig 2-2 IA and SV sampling.mxd

Notes:
1. EPMMs demonstrated to be no longer required based on testing requirements in the MassDEP Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy #WSC-16-435 (Section 3.7 and Tables 3-1 and 3-2).

0 45 90 180
SCALE, FEET

Phase V Status Report No. 23 and
Remedial Monitoring Report No. 38
50 Tufts Street, Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

EPMM INSTALLATION PROGRESS

Project 04516-3 | February 2023 | Fig. 6-1

B:\Private\04516\20.0 GIS Data\Map_Files\Tufts_St_GIS_Master_Map_Feb2021.mxd

Preferred Criteria For:

Option 1 (SSDS):

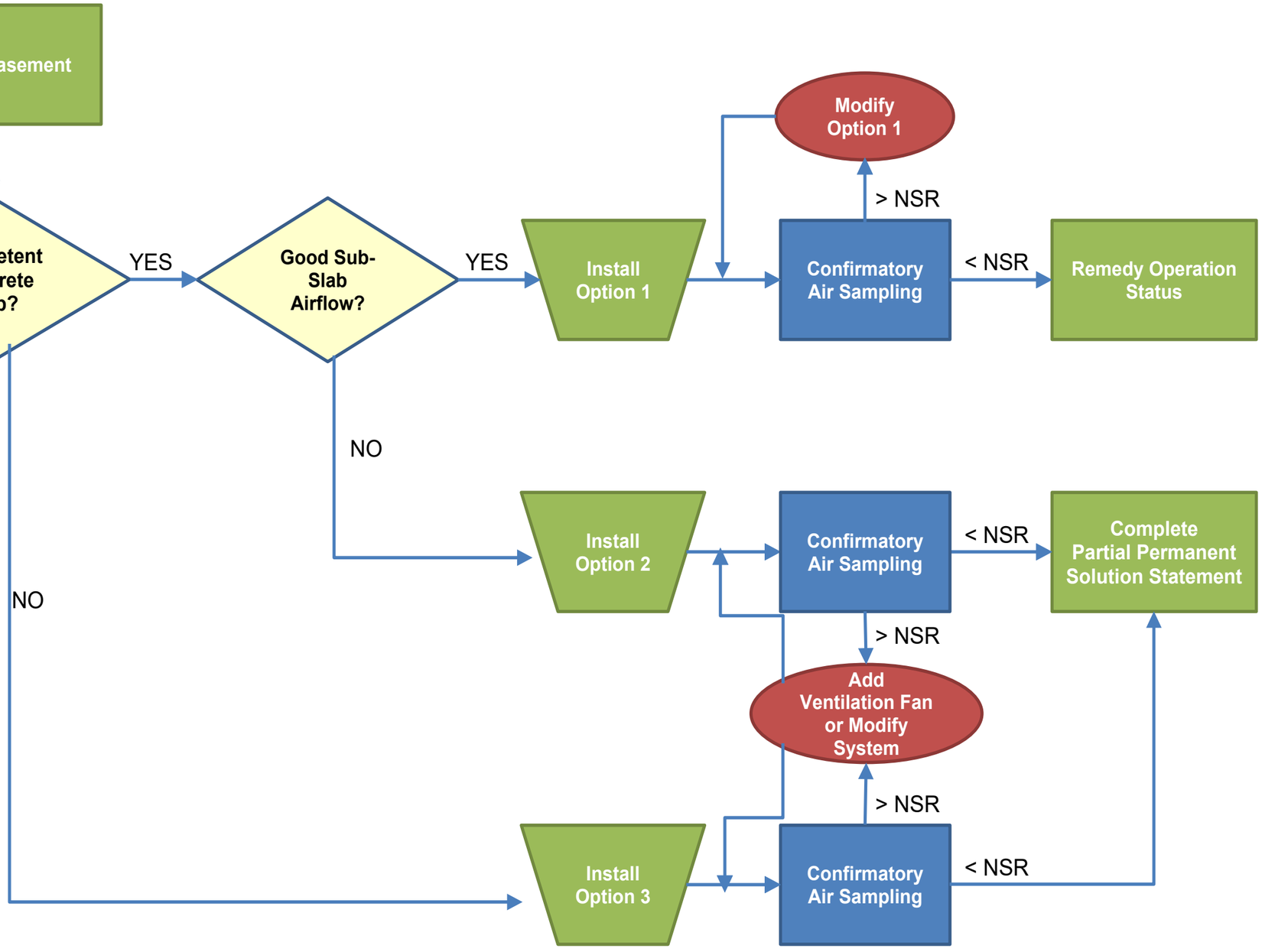
1. Competent concrete slab
2. Poured concrete foundation
3. Granular sub-grade (good sub-slab air flow)

Option 2 (Vapor Trench):

1. Competent concrete slab
2. Silt/clay sub-grade (poor sub-slab air flow)

Option 3 (New Slab Installation):

1. Incompetent concrete slab
2. Silt/clay sub-grade (poor sub-slab air flow)



NSR = No Significant Risk

Phase V Status Report No. 23 and Remedial Monitoring Report No. 38 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	EPMM MITIGATION FLOW CHART
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	February 2023 Fig. 6-2

LEGEND:

PERMANENT SOLUTION STATUS

- PERMANENT SOLUTION WITH CONDITIONS PARTIAL STATEMENT SUBMITTED
- PERMANENT SOLUTION WITHOUT CONDITIONS PARTIAL STATEMENT SUBMITTED
- REMEDY OPERATION STATUS
- DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)

0 75 150 300

SCALE, FEET

Phase V Status Report No. 23 and
Remedial Monitoring Report No. 38
50 Tufts Street, Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

PERMANENT SOLUTION STATUS

Project 04516-3 | February 2023 | Fig. 6-3

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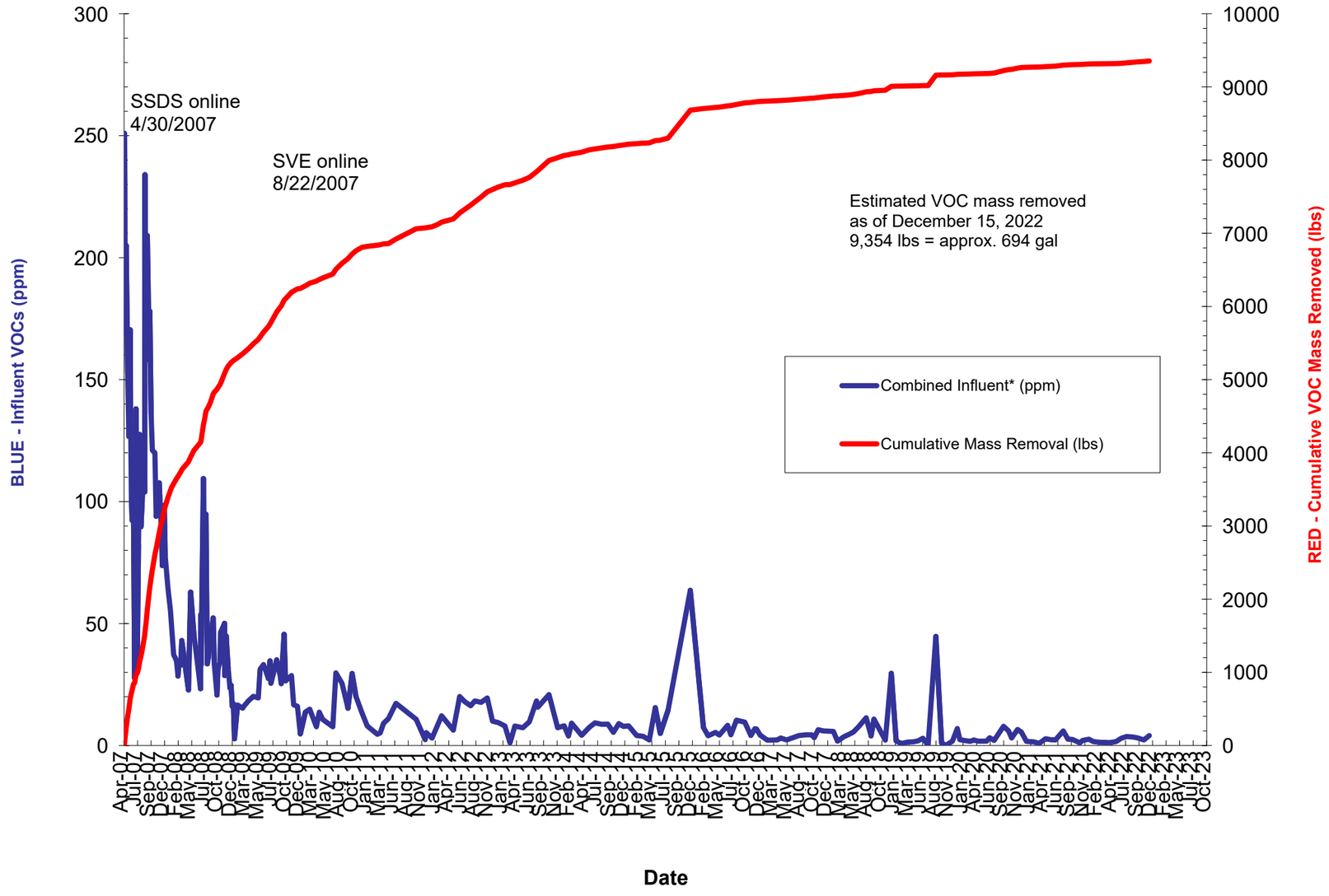

General Notes:

lbs = pounds.

PCE = tetrachloroethylene (perchloroethylene).

ppm = parts per million.

SSDS = sub-slab depressurization system.

SVE = soil vapor extraction system.

VOC = volatile organic compound.

*Influent concentrations measured by a photoionization detector (PID).

Phase V Status Report No. 23 and Remedial Monitoring Report No. 38 50 Tufts Street, Somerville, Massachusetts		GEI Consultants	COMBINED INFLUENT VOC CONCENTRATIONS AND CUMULATIVE VOC REMOVAL
UniFirst Corporation Wilmington, Massachusetts		Project 04516-3	February 2023 Fig. 8-1

Appendix A

MassDEP Transmittal Forms BWSC-108, BWSC-108A, BWSC-108B

Comprehensive Response Action Transmittal Forms:

- **BWSC-108A 1 of 5 (50 Tufts SSDS)**
- **BWSC-108B 1 of 5 (50 Tufts SSDS)**
- **BWSC-108A 2 of 5 (50 Tufts SVE)**
- **BWSC-108B 2 of 5 (50 Tufts SVE)**
- **BWSC-108A 3 of 5 (Capuano Center)**
- **BWSC-108B 3 of 5 (Capuano Center)**
- **BWSC-108A 4 of 5 (Residences)**
- **BWSC-108A 5 of 5 (MNA)**

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 108

Release Tracking Number
3 - 23246

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: 50 TUFTS ST & PROP ACROSS THE ST

2. Street Address: 50 TUFTS ST

3. City/Town: SOMERVILLE 4. ZIP Code: 021454129

☑ 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:

☐ a. Tier I ☐ b. Tier ID ☑ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Submit a **Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work,** pursuant to 310 CMR 40.0834.

☐ 4. Submit an **interim Phase II Report.** This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.

☐ 5. Submit a **final Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 6. Submit a **Revised Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 9. Submit a **Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report,** pursuant to 310 CMR 40.0875.

☐ 12. Submit a **Phase IV Status Report,** pursuant to 310 CMR 40.0877.

☐ 13. Submit a **Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Permanent or Temporary Solution.

☐ b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

☐ 14. Submit a **Revised Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

☐ 15. Submit a **Phase V Status Report,** pursuant to 310 CMR 40.0892.

☑ 16. Submit a **Remedial Monitoring Report.** (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☑ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☑ iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.

☐ iv. A Remedial Monitoring Report(s) submitted annually, concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase IV ☑ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

d. Number of Remedial Systems and/or Monitoring Programs: 5

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status,** pursuant to 310 CMR 40.0893.

☑ 18. Submit a **Status Report to maintain a Remedy Operation Status,** pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS),** pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

☐ 20. Submit a **Termination of a Remedy Operation Status,** pursuant to 310 CMR 40.0893(6).(check one)

☐ a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.

☐ b. Submit a notice of Termination of ROS.

☐ 21. Submit a **Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Temporary Solution Status Report,** pursuant to 310 CMR 40.0898.

☐ 24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

a. Status of Site: (check one)

☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *and/or a* ***Termination of a Remedy Operation Status*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report,*** *a* ***Remedy Operation Status,*** *a* ***Phase IV, Phase V or Temporary Solution Status Report,*** *a* ***Status Report to Maintain a Remedy Operation Status,*** *a* ***Transfer or Modification of Persons Maintaining a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP#: 9719

2. First Name: ILEEN S 3. Last Name: GLADSTONE

4. Telephone: 7817214012 5. Ext.: 6. Email: igladstone@geiconsultants.com

7. Signature: ILEEN S GLADSTONE

8. Date: 2/3/2023 (mm/dd/yyyy)

9. LSP Stamp:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☑ c. change in the person undertaking response actions

2. Name of Organization: UNIFIRST CORPORATION

3. Contact First Name: CATHERINE 4. Last Name: MALAGRIDA

5. Street: 68 JONSPIN ROAD 6. Title: ENVIRONMENTAL COMPLIANCE MANAGER

7. City/Town: WILMINGTON 8. State: MA 9. ZIP Code: 018870000

10. Telephone: 9786588888 11. Ext: 0587 12. Email: CATHERINE_MALAGRIDA@UNIFIRST.COM

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS: ☐ Check here to change relationship

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: OTHER PRPS

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☑ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☑ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to: BWSC.eDEP@state.ma.us.

☑ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

1. I, CATHERINE MALAGRIDA, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>*if Section B indicates that this is a* **Modification of a Remedy Operation Status (ROS),** I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: CATHERINE MALAGRIDA (Signature)

3. Title: ENVIRONMENTAL COMPLIANCE MANAGER

4. For: UNIFIRST CORPORATION (Name of person or entity recorded in Section D)

5. Date: 2/2/2023 (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street:

8. City/Town: 9. State: 10. ZIP Code:

11. Telephone: 12. Ext.: 13. Email:

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Received by DEP on 2/3/2023 8:58:33 AM

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 1 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☑ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2022 (mm/dd/yyyy) To: 12/15/2022 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

☐ a. System Startup: (if applicable)
- ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
- ☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:
- ☐ i. Monthly
- ☐ ii. Quarterly
- ☐ iii. Annually
- ☑ iv. Other Describe: OPERATIONAL PARAMETERS QUARTERLY, OFF GAS MONTHLY

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion
Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 436 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 1 of: 5

BWSC108 -B

Release Tracking Number
3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	07/14/2022	TOTAL VOCS	3.7		0.0	☑	0.185	PPMV	YES
SSDS	08/18/2022	TOTAL VOCS	3.5		0.0	☑	0.175	PPMV	YES
SSDS	09/15/2022	TOTAL VOCS	3.1		0.0	☑	0.155	PPMV	YES
SSDS	10/18/2022	TOTAL VOCS	2.3		0.0	☑	0.115	PPMV	YES
SSDS	11/17/2022	TOTAL VOCS	4.1		0.0	☑	0.205	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☑ a. Active Remedial System: (check all that apply)

☐ i. NAPL Recovery ☑ ii. Soil Vapor Extraction/Bioventing ☐ iii. Vapor-phase Carbon Adsorption
☐ iv. Groundwater Recovery ☐ v. Dual/Multi-phase Extraction ☐ vi. Aqueous-phase Carbon Adsorption
☐ vii. Air Stripping ☐ viii. Sparging/Biosparging ☐ ix. Cat/Thermal Oxidation
☐ x. Other Describe: _____

☐ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
☐ i. To the Subsurface ☐ ii. To Groundwater (Injection) ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
☐ i. Reactive Wall ☐ ii. Natural Attenuation ☐ iii. Other Describe: _____

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other: _____

3. System Effluent/Discharge: (check all that apply)
☐ a. Sanitary Sewer/POTW
☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☑ i. Off-gas Controls ☐ ii. No Off-gas Controls
☐ d. Drinking Water Supply
☐ e. Surface Water (including Storm Drains)
☐ f. Other Describe: _____

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2022 (mm/dd/yyyy) To: 12/15/2022 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
☐ a. System Startup: (if applicable)
☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
☐ ii. Other Describe: _____
☑ b. Post-system Startup (after first month) or Monitoring Program:
☐ i. Monthly
☐ ii. Quarterly
☐ iii. Annually
☑ iv. Other Describe: OPERATIONAL PARAMETERS QUARTERLY, OFF GAS MONTHLY

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit
☐ c. Emergency Exclusion Effective Date of Permit: _____ (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: _____ (mm/dd/yyyy)

☐ 4. Other Describe: _____

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 436 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 5

BWSC108 -B

Release Tracking Number
3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	07/14/2022	TOTAL VOCS	3.7		0.0	☑	0.185	PPMV	YES
SSDS	08/18/2022	TOTAL VOCS	3.5		0.0	☑	0.175	PPMV	YES
SSDS	09/15/2022	TOTAL VOCS	3.1		0.0	☑	0.155	PPMV	YES
SSDS	10/18/2022	TOTAL VOCS	2.3		0.0	☑	0.115	PPMV	YES
SSDS	11/17/2022	TOTAL VOCS	4.1		0.0	☑	0.205	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 3 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☑ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2022 (mm/dd/yyyy) To: 12/15/2022 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
- ☐ a. System Startup: (if applicable)
  - ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
  - ☐ ii. Other Describe:
- ☑ b. Post-system Startup (after first month) or Monitoring Program:
  - ☐ i. Monthly
  - ☑ ii. Quarterly
  - ☐ iii. Annually
  - ☐ iv. Other Describe:

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion
Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 113 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 3 of: 5

BWSC108 -B

Release Tracking Number
3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	07/14/2022	TOTAL VOCS	0.0		0.0	☑	8	PPMV	YES
SSDS	10/18/2022	TOTAL VOCS	0.0		0.0	☑	8	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 4 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☑ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2022 (mm/dd/yyyy) To: 12/15/2022 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
- ☐ a. System Startup: (if applicable)
  - ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
  - ☐ ii. Other Describe:
- ☑ b. Post-system Startup (after first month) or Monitoring Program:
  - ☐ i. Monthly
  - ☐ ii. Quarterly
  - ☐ iii. Annually
  - ☑ iv. Other Describe: 60 TUFTS ST QUARTERLY, OTHER PROPERTIES ANNUALLY

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion
Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 161 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 108 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☑ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: 1 b. Total Number of Days of Unscheduled Shutdowns: 182

c. Reason(s) for Unscheduled Shutdowns: 9 KNOWLTON-182 DAYS (SEE ATTACHED)

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☐ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

SEE ATTACHED.

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 5 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☐ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☑ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☑ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☐ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☐ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2022 (mm/dd/yyyy) To: 12/15/2022 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

☐ a. System Startup: (if applicable)
- ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
- ☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:
- ☐ i. Monthly
- ☐ ii. Quarterly
- ☑ iii. Annually
- ☐ iv. Other Describe:

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion
Effective Date of Permit: (mm/dd/yyyy)

☐ 2. MCP Performance Standard MCP Citations(s):

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☐ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: _____ b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): _____ f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☑ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Additional supporting information for:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

BWSC-108, Section B, Question 15 and 18: Submit a **Phase V Status Report and Status Report to maintain a Remedy Operation Status**, pursuant to 310 CMR 40.0893(2).

The Phase V Status Report and Status Report to maintain ROS has been submitted via eDEP, Transmittal No. 1469275, as “Phase V Status Report No. 23 and Remedial Monitoring Report No. 38,” RTN 3-23246, 50 Tufts Street, Somerville, Massachusetts, dated February 2, 2023.

Additional supporting information for:

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (Subpart H)

BWSC-108A, Remedial System 4 of 5, Section 4, Question 1c: **SHUTDOWNS OF ACTIVE REMEIDAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM:** Reason(s) for Unscheduled Shutdowns

The owner of 9 Knowlton Street informed GEI that they do not want to run the fan, the total number of shutdown days during this reporting period was 182.

Additional supporting information for:

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (Subpart H)

BWSC-108A, Remedial System 5 of 5, Section G, Question 5: **SUMMARY STATEMENTS:** Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

The Summary Statement for BWSC-108A Remedial System 5 of 5 has been submitted via eDEP, Transmittal No. 1469275 as part of the “Phase V Status Report No. 23 and Remedial Monitoring Report No. 38,” RTN 3-23246, 50 Tufts Street, Somerville, Massachusetts, dated February 2, 2023.

Appendix B

Property Owner Notification Letters

GEI Consultants

Consulting Engineers and Scientists

June 7, 2022
Project 04516-3

Robert Schofield
9 Knowlton Street
Somerville, MA 02145

Dear Mr. Schofield:

Re: Indoor Air and Soil Vapor Sampling
9 Knowlton Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct indoor air sampling at your property. In advance of the indoor air sampling, we are providing you with a "Notice of Environmental Sampling" (Form BWSC-123), as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continuing assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Joseph D. Roman, LSP
Environmental Division Manager

MEG/JDR:jam
Enclosure
c: Timothy Cosgrave, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

B:\Private\04516\2.0 Correspondence\2.4 Residences\Individual Residences\Knowlton Street\9 Knowlton\June 2022 IA Sampling\NOS Letter\9 Knowlton 06-22 SV IA NOS Ltr.docx

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Mr. Schofield

2. Street Address: 9 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: 9 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling will be/~~has been~~ conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other_____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Soil Vapor Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

GEI Consultants

Consulting Engineers and Scientists

February 2, 2023
Project 04516-3

Robert Schofield
9 Kowlton Street
Somerville, MA 02145-4318

Dear Mr.Schofield:

Re: Soil Vapor and Indoor Air Sampling Results
9 Knowlton Street
Somerville, Massachusetts

On behalf of UniFirst Corporation, GEI Consultants, Inc. is evaluating whether continued operation of the active exposure pathway mitigation measure (AEPMM) at your property at 9 Knowlton Street is required to maintain a level of No Significant Risk (NSR). We understand that you have not been operating the fan since approximately February 2020. As part of this evaluation, we collected two indoor air samples and one soil vapor sample at your property on June 9, 2022.

On May 11, 2022, a shutdown valve was installed on the sub-slab depressurization system (SSDS) riser pipe. To simulate conditions without operation of the AEPMM, the shutdown valve was closed for approximately three weeks prior to collecting the indoor air and soil vapor samples.

On June 8, 2022, one indoor air sample was collected in the basement and one sample was collected on the first floor. The samples were collected over a 24-hour period. Attached is a summary table of the chemicals detected in the indoor air samples along with the previous sampling results (Table 1), and the laboratory data sheets for the recent sampling.

Tetrachloroethylene (PCE) was detected in both samples. Concentrations of PCE were detected at 0.319 micrograms per meter cubed ($\mu g/m^3$) on the first floor and 4.46 $\mu g/m^3$ in the basement. No other chlorinated volatile organic compounds (VOCs) were detected in the samples at concentrations above the laboratory reporting limits.

On June 9, 2022, one soil vapor sample was collected from a previously installed sub-slab sampling point in the basement. The sample was collected over 1-hour. Attached is a summary table of the chemicals detected in the soil vapor samples along with the previous sampling results (Table 1), and the laboratory data sheets for the recent sampling. PCE was detected at a concentration of 9.49 $\mu g/m^3$.

After the air sampling was completed, we opened the shutdown valve and attempted to reactivate the fan. The fan did not restart.

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000

The June 2022 indoor air sampling results indicate that a condition of No Significant Risk (NSR) exists while the fan is deactivated, but additional evaluation is required. We would like to collect additional rounds of indoor air data to continue to evaluate if the AEPMM is required to maintain a level of NSR. The next round of indoor air sampling will be conducted during the winter of 2023. During the January 2023 round of indoor air sampling, GEI will install one additional sub-slab soil vapor sampling port.

Individuals and public officials may request additional public involvement activities under the Massachusetts Contingency Plan (MCP; 310 CMR 40.1403(9) and 40.1404). The property owner also may request additional documentation, such as that listed at 310 CMR 40.0017(3), associated with the above-referenced samples. We will provide such additional documentation within 30 days of our receipt of such a request.

We appreciate your continued cooperation throughout the sampling process. If you have any questions regarding the sampling results, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Joseph Roman, LSP
Environmental Division Manager

MEG/JDR/ISG:jam
Enclosures
c: Timothy Cosgrave, UniFirst Corporation
MassDEP

Table 1
Summary of Indoor Air Testing Results
9 Knowlton Street
Somerville, Massachusetts

Sample Location:	9 Knowlton Street							
Sample Name:	045162-9KNOW-1		045162-9KNOW-B		045162-9KNOW-1		045162-9KNOW-B	
Sample Date:	5/21/2007		5/21/2007		6/8/2022		6/8/2022	
Collected by:	GEI		GEI		GEI		GEI	
Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte								
Volatile Organic Compounds (VOCs)								
1,1-Dichloroethylene	< 0.81 J	< 0.20 J	0.63 J	0.16 J	<0.079	<0.020	<0.079	<0.020
cis-1,2-Dichloroethylene	< 0.79 J	< 0.20 J	1.5	0.39	<0.079	<0.020	<0.079	<0.020
Tetrachloroethylene (PCE)	94.3 G	13.9 G	366 G	54.0 G	0.319	0.047	4.46	0.657
1,1,1-Trichloroethane	1.3	0.23	4.4	0.81	<0.109	<0.020	<0.109	<0.020
Trichloroethylene (TCE)	1.3	0.24	3.9	0.72	<0.107	<0.020	<0.107	<0.020

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

Qualifying Note:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2
Chemical Testing Results - Sub-Slab Soil Vapor
9 Knowlton Street
Somerville, Massachusetts

	Sample Location:	9 Knowlton Street					
	Sample Name:	9 KNOW-SS1		9 KNOW-SS1		9 KNOW-SS1	
	Sample Date:	2/28/07		11/30/09		6/23/22	
	Collected By:	GEI		GEI		GEI	
	Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**						
Volatile Organic Compounds (VOCs)	TO-15						
Carbon tetrachloride		2.3	0.37	2.3	0.37	NT	NT
1,1,1-Trichloroethane		0.76 J	0.14 J	< 1.1	< 0.20	<1.09	<0.200
Tetrachloroethylene (PCE)		199	29.3	206	30.4	9.49	1.4

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2231461
Report Date: 06/24/22

SAMPLE RESULTS

Lab ID: L2231461-01
Client ID: 045163-9KNOW-SV1
Sample Location: SOMERVILLE, MA

Date Collected: 06/09/22 18:08
Date Received: 06/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 06/23/22 00:51
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	1.40	0.200	--	9.49	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	87		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2231461
Report Date: 06/24/22

SAMPLE RESULTS

Lab ID: L2231461-02
Client ID: 045163-9KNOW-B
Sample Location: SOMERVILLE, MA

Date Collected: 06/09/22 17:14
Date Received: 06/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 06/23/22 00:18
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.657	0.020	--	4.46	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	85		60-140
bromochloromethane	87		60-140
chlorobenzene-d5	89		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2231461
Report Date: 06/24/22

SAMPLE RESULTS

Lab ID: L2231461-03
Client ID: 045163-9KNOW-1
Sample Location: SOMERVILLE, MA

Date Collected: 06/09/22 17:18
Date Received: 06/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 06/22/22 23:48
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.047	0.020	--	0.319	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	86		60-140
bromochloromethane	88		60-140
chlorobenzene-d5	90		60-140

GEI Consultants

Consulting Engineers and Scientists

November 30, 2022
Project 04516-3

Mr. John Mostyn, Esq.
Corcoran Jennison Management
150 Mount Vernon Street, Suite 500
Boston, MA 02125-3125

Dear Mr. Mostyn:

Re: Groundwater Sampling
84 Washington Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct groundwater sampling at your property located at 84 Washington Street in Somerville, Massachusetts. We are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP), following groundwater sampling in November 2022.

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com, if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

CWS/MEF:jam
Enclosure

c: Timothy Cosgrave, UniFirst Corporation
Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Mr. John Mostyn, Esq.

2. Street Address: Corcoran Jennison Management,150 Mount Vernon St, Ste 500

City/Town: Dorchester, MA Zip Code: 02125-3125

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 84 Washington Street (Cobble Hill Apartments)

City/Town: Somerville, MA Zip Code: 02145

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☑ Other Apartment Complex (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Semi-Annual Groundwater Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

GEI Consultants

Consulting Engineers and Scientists

January 10, 2023
Project 04516-3

Mr. John Mostyn, Esq.
Corcoran Jennison Management
150 Mount Vernon Street, Suite 500
Boston, MA 02125-3125

Dear Mr. Mostyn:

Re: Groundwater Sampling Results
Cobble Hill Apartments
84 Washington Street
Somerville, Massachusetts

On behalf of UniFirst Corporation, GEI Consultants, Inc. is providing results of the groundwater sampling conducted at 84 Washington Street on November 29, 2022. The sampling was conducted as part of our investigation related to the site at 50 Tufts Street in Somerville, Massachusetts. We collected groundwater samples from one groundwater monitoring well located on your property (MW118D).

Groundwater samples were submitted for chemical testing for volatile organic compounds (VOCs). We have attached a summary table of the chemicals detected in the groundwater samples along with the previous sampling results, and the laboratory data sheets for the recent sampling.

Thank you for permitting GEI to conduct groundwater sampling at your property.

Individuals and public officials may request additional public involvement activities under the Massachusetts Contingency Plan (MCP; 310 CMR 40.1403[9] and 40.1404). The property owner may also request additional documentation, such as that listed at 310 CMR 40.0017(3), associated with the above-referenced samples. We will provide such additional documentation within 30 days of our receipt of such a request.

We appreciate your continued cooperation throughout the sampling process. If you have any immediate questions regarding the water testing results, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Joseph D. Roman, LSP
Environmental Division Manager

JKF/MEF:jam

Enclosures
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

Table 1. Chemical Testing Results - Groundwater
84 Washington Street
50 Tufts Street Area
Somerville, Massachusetts

		Sample Location:	MW118D																
		Sample Name:	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW901 (FD)	MW118D	MW118D	MW118D	MW118D	MW118D
		Well Screen Interval (ft bgs):	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80
		Sample Date:	7/20/07	8/30/07	10/11/07	1/16/08	4/16/08	7/16/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/24/13	11/18/13
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																	
Volatile Organic Compounds (VOCs)	8260	µg/l																	
Benzene			NT	NT	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbon disulfide			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethane			20.3	21.4	31.2	31.7	33.3	34.3	22.8	26.0	22.8	28.7	41.2	39.5	40.0	43.5	36.9	41.4	38.5	39.1
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.55 J	< 1.0	< 1.0
cis-1,2-Dichloroethylene			0.55 J	< 1.0	< 1.0	< 1.0	< 1.0	0.96 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.3	1.2	1.6	2.7	5.1
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.74 J
4-Isopropyltoluene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.93 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			NT	NT	< 1.0	0.40 J	< 1.0	0.40 J	< 1.0	< 1.0	0.38 J	0.39 J	0.55 J	0.51 J	< 1.0	0.83 J	< 1.0	0.63 J	< 1.0	0.46 J
Tetrachloroethylene (PCE)			7.0	8.4	8.2	6.1	5.7	7.1	2.1	1.2	< 1.0	2.3	0.93 J	1.1	1.5	4.6	8.4	4.3	5.8	1.3
Toluene			NT	NT	< 1.0	0.62 J	< 1.0	0.27 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			1.2	3.9	1.8	0.94 J	1.0	1.9	< 1.0	1.9	1.5	3.0	6.1	6.3	10.0	11.9	7.4	11.5	7.7	7.3
Vinyl chloride			< 1.0	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round is highlighted in yellow.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.

Table 1. Chemical Testing Results - Groundwater
84 Washington Street
50 Tufts Street Area
Somerville, Massachusetts

		Sample Location:	MW118D (cont.)																
		Sample Name:	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D
		Well Screen Interval (ft bgs):	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80
		Sample Date:	5/1/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017	4/3/2018	11/15/2018	4/15/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/12/2022	11/29/2022
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																		
Volatile Organic Compounds (VOCs)	8260	µg/l																		
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2
Chloroethane			< 2.0	< 2.0 G	< 2.0	4.8	3.1	3.1	1.1	3.4	3.7	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2
1,1-Dichloroethane			40.6	47.9	46.6	39.3	43.9	37.7	34.8	27.4	21.9	20.0	18.6	33.9	44	27	25	22	30	29
1,1-Dichloroethylene			< 1.0	0.79 J K+	0.90 J	1.6	1.8	0.85 J	0.78 J	< 1.0	< 1.0	< 1.0	<1.0	2.6	2.4	1.3	< 1.0	< 1.0	< 1.0	<1
cis-1,2-Dichloroethylene			6.5	6.8	6.9	5.6	27.8	8.6	7.9	5	4.3	3.7	3.2	57.3	53.0	10.0	5.8	4.7	4.1	3.9
trans-1,2-Dichloroethylene			0.68 J	< 1.0 K+	0.62 J	2.2	2.9	0.81 J	0.55 J	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2
Methyl tert-butyl ether			< 1.0	1.9 K+	0.69 J	0.89 J	< 1.0	1.3	0.81 J	< 1.0	1.1	1.3	1.3	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2
Tetrachloroethylene (PCE)			< 1.0	2.2	5.1	39.7	49.8	6.5	5.8	2.7	2.7	1.8	1.6	40.9	38	27	2.2	1.1	<1.0	1.1
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
Trichloroethylene (TCE)			4.3	6.9	4.6	17.6	14.4	3.3	2.6	1.7	1.5	1.5	1.1	11.4	11	7.9	2.7	1.7	<1.0	1.1
Vinyl chloride			< 1.0	< 1.0 G K-	< 1.0	1.9	20.2	3.1	0.93 J	2.4	1.9	< 1.0	1.1	11.8	19	3.8	3.3	1.9	<1.0	2.6
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
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7. Most recent sampling round is highlighted in yellow.

Qualifying Notes:
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J+ The reported result is estimated.
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Table 1. Chemical Testing Results - Groundwater
84 Washington Street
50 Tufts Street Area
Somerville, Massachusetts

Sample Location:			MW118S																
Sample Name:			MW118S 3 to 14 7/20/07	MW118S 3 to 14 8/30/07	MW118S 3 to 14 10/11/07	MW118S 3 to 14 1/11/08	MW118S 3 to 14 4/16/08	MW118S 3 to 14 7/15/08	MW118S 3 to 14 10/21/08	MW118S 3 to 14 1/14/09	MW118S 3 to 14 4/15/09	MW118S 3 to 14 7/15/09	MW118S 3 to 14 10/14/09	MW118S 3 to 14 4/12/10	MW118S 3 to 14 4/20/11	MW118S 3 to 14 4/24/13	MW118S 3 to 14 5/1/14	MW118S 3 to 14 4/2/15	MW118S 3 to 14 4/28/16	MW118S 3 to 14 4/17/17
Well Screen Interval (ft bgs):																			
Sample Date:																			
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																	
Volatile Organic Compounds (VOCs)	8260	µg/l																	
Benzene			NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50
Carbon disulfide			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
4-Isopropyltoluene			NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	21.9	< 5.0	2.9 J	6.0	< 5.0	10.3
Methyl tert-butyl ether			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0
Tetrachloroethylene (PCE)			0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.29 J	< 1.0	0.38 J
Toluene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
m,p-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
o-Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Total Xylene			NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
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Table 1. Chemical Testing Results - Groundwater
84 Washington Street
50 Tufts Street Area
Somerville, Massachusetts

Sample Location:			MW118S (cont.)					MW118T											
Sample Name:			MW118S	MW118S	MW118S	MW118S	MW118S	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T
Well Screen Interval (ft bgs):			3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5
Sample Date:			4/3/18	4/15/19	4/16/20	4/13/21	4/12/22	7/20/07	8/30/07	10/11/07	1/15/08	4/16/08	7/15/08	10/21/08	1/14/09	4/14/09	7/14/09	10/15/09	4/12/10
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																	
Volatile Organic Compounds (VOCs)	8260	µg/l																	
Benzene			<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbon disulfide			<2.0	<2.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane			<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	35.4	34.4	44.2	42.3	42.0	41.9	37.0	33.4	33.6	40.0	53.3 J+	37.8
1,1-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	<1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene			<2.0	<2.0	<2.0	3.1	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			<5.0	<5.0	<2.0	<2.0	<2.0	NT	NT	2.4	3.1	2.2	2.5	2.2	2.3	2.0	1.9	7.5	1.2
Tetrachloroethylene (PCE)			<1.0	<1.0	<1.0	<1.0	<1.0	3.0	3.8	2.2	2.9	2.7	2.5	2.4	2.1	2.0	1.7	2.8	1.6
Toluene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.50 J	0.80 J	< 1.0
Vinyl chloride			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			<1.0	<1.0	<2.0	<2.0	<2.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
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Table 1. Chemical Testing Results - Groundwater
84 Washington Street
50 Tufts Street Area
Somerville, Massachusetts

		Sample Location:	MW118T (cont.)											
		Sample Name:	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T
		Well Screen Interval (ft bgs):	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5
		Sample Date:	4/20/11	4/17/12	4/24/13	5/1/14	4/3/15	4/28/16	4/17/17	4/3/18	4/16/19	4/18/20	4/13/21	4/12/22
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**												
Volatile Organic Compounds (VOCs)	8260	µg/l												
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
1,1-Dichloroethane			35.9	28.8	26.9	28.4	31.3	31.3	26.7	22.4	5.8	23	16	1.5
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.36 J	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	0.45 J	< 1.0	0.55 J	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			2.4	1.8	7.1	0.94 J	1.5	1.1	1.9	1.6	<1.0	2.1	<2.0	<2.0
Tetrachloroethylene (PCE)			2.1	2.1	1.5	1.0	1.3	2.0	0.90 J	<1.0	<1.0	1.4	1.1	<1.0
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	0.26 J	0.62 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-03 Date Collected: 11/29/22 14:15
Client ID: 045163-MW118D Date Received: 11/30/22
Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 12/11/22 21:17
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	29		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	1.1		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	2.6		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-03 Date Collected: 11/29/22 14:15

Client ID: 045163-MW118D Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	1.1		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	3.9		ug/l	1.0	--	1
1,2-Dichloroethene, Total	3.9		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-03 Date Collected: 11/29/22 14:15

Client ID: 045163-MW118D Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	112		70-130

GEI Consultants

Consulting Engineers and Scientists

November 30, 2022
Project 04516-3

Mr. Vithal V. Deshpande
Environmental Coordinator
City Hall Annex
50 Evergreen Avenue
Somerville, MA 02145-2819

Dear Mr. Deshpande:

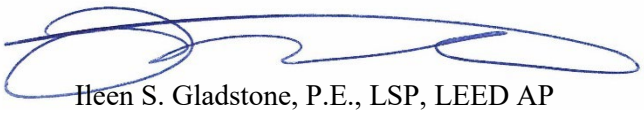
Re: Groundwater Sampling
Certain "Public Ways"
Somerville, Massachusetts

Thank you for permitting GEI to conduct groundwater sampling on certain public ways in Somerville, Massachusetts. We are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP), following groundwater sampling in November 2022.

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.



Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

CWS/MEF:jam
Enclosure

c: Timothy Cosgrave, UniFirst Corporation
Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Mr. Vithal V. Deshpande, City of Somerville
2. Street Address: City Hall Annex, 50 Evergreeen Avenue

City/Town: Somerville, MA Zip Code: 02145-2819

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: Somerville City Street

City/Town: Somerville, MA Zip Code: 02145

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☐ commercial ☐ industrial ☐ school/playground ☑ Other City Streets (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Semi-Annual Groundwater Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

GEI Consultants

Consulting Engineers and Scientists

January 10, 2023
Project 04516-3

Mr. Vithal V. Deshpande
Environmental Coordinator
City Hall Annex
50 Evergreen Avenue
Somerville, MA 02145-2819

Dear Mr. Deshpande:

Re: Groundwater Sampling Results
Certain "Public Ways"
Somerville, Massachusetts
MassDEP RTN 3-23246

On behalf of UniFirst Corporation, GEI Consultants, Inc. is providing results for groundwater samples collected on November 29, 2022, from groundwater monitoring wells located on municipal property. The sampling was conducted as part of our investigation related to the site at 50 Tufts Street in Somerville, Massachusetts. We collected groundwater samples from two shallow monitoring wells (MW112A and MW122), and one monitoring well screened in bedrock (MW121D) on November 29, 2022.

Groundwater samples were submitted for chemical testing for volatile organic compounds (VOCs) We have attached a summary table of the chemicals detected in the groundwater samples along with the previous sampling results, the laboratory data sheets for the recent sampling, and a figure showing the sampling locations.

Thank you for permitting GEI to conduct groundwater sampling on certain public ways in Somerville, Massachusetts.

Individuals and public officials may request additional public involvement activities under the Massachusetts Contingency Plan (MCP; 310 CMR 40.1403[9] and 40.1404). The property owner may also request additional documentation, such as that listed at 310 CMR 40.0017(3), associated with the above-referenced samples. We will provide such additional documentation within 30 days of our receipt of such a request.

We appreciate your continued cooperation throughout the sampling process. If you have any immediate questions regarding the water testing results, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Joseph D. Roman, LSP
Environmental Division Manger

JKF/MEF:jam
Enclosures
c: Catherine Malagrida, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

			Sample Location:	MW112A																	
			Sample Name:	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW112A	MW901 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A
			Well Screen Interval (ft bgs):	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
			Sample Date:	3/23/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	10/14/09	4/12/10
			Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																				
Volatile Organic Compounds (VOCs)																						
Acetone	8260	µg/l		< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+
Benzene				< 0.50	< 0.50	NT	< 0.50	0.34 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26 J	0.27 J	0.36 J	0.28 J	< 0.50 F-	< 0.50 F-	< 0.50	< 0.50	< 0.50
Bromodichloromethane				< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)				< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide				< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform				0.35 J	< 1.0	NT	< 1.0	0.32 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.23 J	0.24 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane				< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene				< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane				27.6	24.0	6.4	35.6	114	40.9 C+	31.5	31.2	43.7	44.6	70.9	70.7	109	89.6	99.3	107	137	142	83.8
1,2-Dichloroethane				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene				19.7	10.8	6.7	19.7	82.4	36.6 C+	24.5	24.5	39.1	39.3	61.7	61.7	89.2	73.0	91.4	97.7	123	130	74.9
cis-1,2-Dichloroethylene				< 1.0	0.54 J	0.98 J	4.2	18.7	55.3 C+	81.5	80.9	214	212	225	224	296	247	311	380	390	373	165
trans-1,2-Dichloroethylene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.9 G	2.5 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether				10.8	13.8	NT	20.3	87.0	20.5 C+	14.9	13.5	32.4	32.2	33.3	32.9	29.9	23.3	41.4	46.0	77.5	81.4	15.9
Methylene chloride				< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene				< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)				261	198	144	159	359	202 C+	165	164	226	228	287	290	290 G	384	359	360	393	405	481
Tetrahydrofuran				< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10 F+	< 10	< 10	< 10
Toluene				0.54 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)				1.3	0.96 J	0.68 J	1.4	5.8	1.9 C+	1.3	1.2	5.6	5.7	3.3	3.2	3.9	3.1	3.8	4.0	4.2 J+	4.4 J+	3.4
Trichloroethylene (TCE)				34.0	36.1	26.7	61.3	142	72.8 C+	46.1	44.3	54.9	55.9	88.2	87.9	140	114	137	139	194	198.0	173
Vinyl chloride				0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.42 J	0.43 J	< 1.0	< 1.0	1.2	1.3	1.0	1.5	< 1.0
m,p-Xylene				< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene				< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene				< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Iron																						< 0.10 J+
Manganese																						875
Others				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Methane	8015	µg/l																				0.18 J B
Ethane	8015	µg/l																				< 0.10
Ethylene	8015	µg/l																				< 0.10
Alkalinity	E310.1	µg/l																				233000
Chloride	E325.3	µg/l																				810000
Iron, Ferrous	3500FE B	µg/l																				NT
Nitrate & Nitrite as N	E353.2	µg/l																				4700
Nitrogen, Nitrate	E353.2	µg/l																				4700
Nitrogen, Nitrite	E354.1	µg/l																				11
Sulfate	E375.4	µg/l																				57100
Surfactants	E425.1	µg/l																				< 100
Total Organic Carbon	E415.1	µg/l																				1200

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round highlighted in yellow.

Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.

Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

			MW112A (cont.)																	
Sample Location:																				
Sample Name:			MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW901 (FD)
Well Screen Interval (ft bgs):			4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:			4/12/10	10/27/10	4/20/11	4/20/11	11/16/11	4/16/12	4/16/12	11/12/12	4/24/13	4/24/13	11/18/13	6/11/14	11/18/14	4/17/15	4/17/15	4/28/16	11/21/16	4/18/17	4/18/2017
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260	µg/l	< 5.0 J+	< 5.0	< 10	< 10	< 5.0	< 5.0 K-	< 5.0 K-	< 10 K-	< 20	< 20	< 10 K-	< 10 K-	< 10	< 10	< 10	< 10	< 10	<10	<10
Benzene			< 0.50	< 0.50	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.43 J	0.23 J	0.23 J
Bromodichloromethane			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10 K-	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	<10
Carbon disulfide			< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0
Chloroethane			< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0
Chloroform			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
Chloromethane			< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<1.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
1,1-Dichloroethane			88.3	85.5	38.1	38.8	39.5	71.5	69.0	48.1	24.2	37.0	73.5	18.3	64.1 G K-	23.2	25.2	14.1	77	34.1	30.1
1,2-Dichloroethane			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
1,1-Dichloroethylene			78.6	89.1	57.9	53.0	47.6	86.4	76.2	57.3	30.2	30.0	86.5	38.5	109 K+	39	42.9	21.5	132	47.7	43.0
cis-1,2-Dichloroethylene			196	214	143	140	169	178	185	150	145	112	209	150	321	71.1	84.1	108	230	78.2	71.8
trans-1,2-Dichloroethylene			< 1.0	5.9	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	2.9	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
Methyl tert-butyl ether			20.3	50.3	9.2	9.1	22.3	27.1	26.2	28.8	19.0	14.1	64.6	4.6	47.3 K+	11.9	13.9	3.9	53.9	11.6	11.4
Methylene chloride			< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0
Tetrachloroethylene (PCE)			477	561	415	409	363	569 R	604	546	339	581	371	266	398	303	300	258	508	435	404
Tetrahydrofuran			< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 20 F- K-	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10
Toluene			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			3.4	4.3	7.5	< 2.0	3.3	5.3	4.8	4.1	4.3	6.5	8.0	1.5	3.6	1.3	1.4	1.7	6.5	4.1	3.6
Trichloroethylene (TCE)			179	181	110	108	95.0	171	157	138	87.0	140	146	82.0	117	71	73	61.3	220.0	118.0	107
Vinyl chloride			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	4.4	0.90 J	< 1.0	0.77 J G K-	< 1.0	< 1.0	< 1.0	1.3	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
o-Xylene			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT		NT	NT		NT	NT		NT	NT		NT		NT		NT		NT
Iron					NT			< 100			14200			NT		NT		NT		NT	
Manganese					1570			954			1610			1470		909		1530		627	
Others			NT	NT		NT	NT		NT	NT		NT	NT		NT		NT		NT		NT
Methane	8015	µg/l			< 0.30			0.66			0.10 J			< 10		< 10		< 10		<10	
Ethane	8015	µg/l			< 0.10			< 0.10			< 0.10			< 10		< 10		< 10		<10	
Ethylene	8015	µg/l			< 0.10			< 0.10			< 0.10			< 10		< 10		< 10		<10	
Alkalinity	E310.1	µg/l			252000			245000			278000			285000		266000		332000		339000	
Chloride	E325.3	µg/l			915000			655000			857000			815000		700000		700000		439000	
Iron, Ferrous	3500FE B	µg/l			NT			NT			NT			< 100		< 100		< 100		<100	
Nitrate & Nitrite as N	E353.2	µg/l			3500			2600			1300			650		1200		490		620	
Nitrogen, Nitrate	E353.2	µg/l			3500			2600			1300			650		1200		490		620	
Nitrogen, Nitrite	E354.1	µg/l			< 10			< 10			< 10			< 10		< 10		< 10		<10	
Sulfate	E375.4	µg/l			52200			66100			68000			90900		63100		117000		71000	
Surfactants	E425.1	µg/l			< 100			< 100			< 100			< 100		< 100		< 100		<100	
Total Organic Carbon	E415.1	µg/l			1100			< 1000			1500			< 1000		< 5000		< 1000		<1000	

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round highlighted in yellow.

Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.

Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

			MW112A (cont.)											MW116							
Sample Location:																					
Sample Name:			MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW116	MW116	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)
Well Screen Interval (ft bgs):			4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
Sample Date:			11/10/2017	4/4/2018	11/15/2018	4/15/2019	11/22/2019	4/16/2020	11/18/2020	4/13/2021	11/30/2021	4/14/2022	11/29/2022	3/23/07	4/16/07	7/18/07	7/18/07	10/12/07	10/12/07	1/11/08	1/11/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260	µg/l	< 20	<25	<25	<25	< 10	<25	<25	<25	<25	<25	<25	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+
Benzene			< 1.0	<1.3	<1.3	<1.3	< 0.50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	0.24 J	< 0.50	NT	NT	< 1.0	< 1.0	< 0.50	< 0.50
Bromodichloromethane			< 2.0	<2.5	<2.5	<2.5	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	1.1 J	0.99 J	< 1.0	< 1.0
2-Butanone (MEK)			< 20	<25	<25	<25	< 5.0	<25	<25	<25	<25	<25	<25	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+
Carbon disulfide			< 4.0	<5.0	<5.0	<5.0	< 5.0	<10	<10	<10	<10	<10	<10	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0
Chloroethane			< 2.0	<2.5	<2.5	<2.5	< 2.0	<10	<10	<10	<10	<10	<10	< 2.0	< 2.0	2.4	2.3	2.4 J	2.4 J	< 2.0	< 2.0
Chloroform			< 2.0	<2.5	<2.5	<2.5	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0
Chloromethane			< 2.0	<2.5	<2.5	<2.5	< 2.0	<10	<10	<10	<10	<10	<10	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 2.0	<2.5	<2.5	<2.5	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0
1,1-Dichloroethane			88.1	25.3	25.3	38.5	36.9	51.0	48.0	40	35	24	35	135	4.4	97.3	96.9	80.1	79.3	18.9	15.6
1,2-Dichloroethane			< 2.0	<2.5	<2.5	<2.5	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0
1,1-Dichloroethylene			92.5	33.0	33.0	57.3	63.1	79.0	98.0	58	63	45	67	107	2.7	33.8	34.0	24.8	22.4	14.7	11.8
cis-1,2-Dichloroethylene			155	98.5	98.5	60.6	131	72	130	62	120	85	68	103	21.7	415	431	346	341	49.5	42.9
trans-1,2-Dichloroethylene			< 2.0	<2.5	<2.5	<2.5	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	1.8	< 1.0	4.3	4.4	2.5	2.4	0.88 J	1.3
Methyl tert-butyl ether			56	19.1	19.1	25.9	21.7	27.0	30.0	19	12	5	13	12.3	0.40 J	NT	NT	12.5	12.7	2.1 J+	1.3 J+
Methylene chloride			< 4.0	<5.0	<5.0	<5.0	< 2.0	<10	<10	<10	<10	<10	<10	< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0
Naphthalene			< 10	<13	<13	<13	< 5.0	<10	<10	<10	<10	<10	<10	< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	0.68 J
Tetrachloroethylene (PCE)			908	317	317	555	463	750	760	630	460	370	560	1180	32.2	167	168	116	110	267	257 J+
Tetrahydrofuran			< 20	<25	<25	<25	< 10	<10	<10	<10	<10	<10	<10	30.6	13.8	NT	NT	< 20	< 20	< 10	< 10
Toluene			< 2.0	<2.5	<2.5	<2.5	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			11.4	3.6	3.6	5.4	5.0	7.5	7.8	7.0	5.1	3.0	<5	21.6	0.67 J	10.6	10.7	9.4	9.2	3.3	2.5
Trichloroethylene (TCE)			247	92.3	92.3	136	136	180	190	140	130	95	140	358	19.4	72.7	73.2	136	129	66.3	53.6
Vinyl chloride			< 2.0	<2.5	<2.5	<2.5	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	14.1	3.2	185	182	84.9	76.4	3.1	2.3
m,p-Xylene			< 2.0	<2.5	<2.5	<2.5	< 1.0	<10.0	<10.0	<10.0	<10.0	<10	<10	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2
o-Xylene			< 2.0	<2.5	<2.5	<2.5	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0
Total Xylene			< 2.0	<2.5	<2.5	<2.5	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2
Metals (Total)	6010B	µg/l	NT		NT		NT		NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron				NT		NT		NT		NT		NT									
Manganese				2620		3360		2600		2550		635									
Others			NT		NT		NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l		320		6.7		17.6		5.88		2.11									
Ethane	8015	µg/l		12.2		<0.23		<0.500		<0.500		<0.500									
Ethylene	8015	µg/l		<0.31		<0.31		<0.500		<0.500		<0.500									
Alkalinity	E310.1	µg/l		247000		259000		248000		234000		265000									
Chloride	E325.3	µg/l		170000		517000		440000		540000		410000									
Iron, Ferrous	3500FE B	µg/l		<200		<200		<500		<500		<500									
Nitrate & Nitrite as N	E353.2	µg/l		<100		490		330		240		<380									
Nitrogen, Nitrate	E353.2	µg/l		<110		480		334		217		<371									
Nitrogen, Nitrite	E354.1	µg/l		<10		<10		<300		<300		<300									
Sulfate	E375.4	µg/l		59200		551000		50000		50000		60000									
Surfactants	E425.1	µg/l		<100		<100		<50		<50		<50									
Total Organic Carbon	E415.1	µg/l		1700		<1000		750		700		750									

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round highlighted in yellow.

Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.

Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

			Sample Location:	MW116 (cont.)																	
			Sample Name:	MW116	MW901 (FD)	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW900 (FD)	MW116
			Well Screen Interval (ft bgs):	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
			Sample Date:	4/15/08	4/15/08	7/16/08	10/21/08	1/14/09	4/15/09	7/14/09	10/14/09	4/13/10	4/13/10	4/21/11	4/21/11	4/17/12	4/17/12	4/24/13	4/24/13	5/1/14	5/1/14	4/2/15
			Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																				
Volatile Organic Compounds (VOCs)																						
Acetone	8260	µg/l		< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10 F+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 20	< 10	< 20	< 20	< 20
Benzene				< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0
Bromodichloromethane				< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
2-Butanone (MEK)				< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10
Carbon disulfide				< 5.0	< 5.0	2.9 J	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10
Chloroethane				< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0
Chloroform				< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
Chloromethane				< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0
1,4-Dichlorobenzene				< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0 J+	< 2.0 J+	< 2.0	< 5.0	< 1.0	1.6	1.0	0.82 J	0.77 J	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethane				66.8	64.5	114	109	72.5	101	69.7	92.2	63.9	68.9	27.8	23.4	52.8	51.8	31.5	25.8	38.5	41.9	52.0
1,2-Dichloroethane				0.23 J	0.20 J	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethylene				46.3	45.7	78.4	79.8	56.5	70.6	35.2	68.8	49.1	51.9	22.4	14.1	43.3	42.3	26.7	39.4	46.1	50.3	52.4
cis-1,2-Dichloroethylene				105	102	286	319	146	84.1	92.7	133	80.7	92.1	84.6	68.3	115	112	94.8	144	107	116	114
trans-1,2-Dichloroethylene				< 1.0	< 1.0	< 2.0	1.3	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	1.6	1.6	1.8	< 1.0	< 1.0	< 2.0	1.1	< 2.0	< 2.0	1.1 J
Methyl tert-butyl ether				7.1	6.9	18.2	18.0	9.0	11.7	7.2	8.4	5.4	5.9	4.4	4.4	3.4	3.3	14.1	10.6 K-	4.4	4.8	5.0
Methylene chloride				< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0
Naphthalene				< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10
Tetrachloroethylene (PCE)				603	607	864	839	795	796 G	1020	1010	860	933	323	166	774	778	527	396	618	670	726
Tetrahydrofuran				< 10	< 10	< 20	< 10	< 20	< 10	< 20 F+	< 20	< 50	< 10	< 10	< 10	< 10	< 10	< 20	< 10	13.3 J	15.7 J	<20
Toluene				< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
1,1,1-Trichloroethane (TCA)				10.7	10.7	16.0	15.6	12.8	16.6	8.5	14.3 J+	8.2	10.2	4.2	3.8	8.0	8.3	6.0	3.0	6.7	7.3	8.0
Trichloroethylene (TCE)				175	174	257	269	229	341	196	267	195	212	88.7	57.7	181	182	126	95.4	164	182	188
Vinyl chloride				2.6	2.7	7.2	21.3	13.9	6.3	6.1	6.9	5.7	6.1	13.5	9.0	8.8 K+	8.8 K+	3.8	< 1.0	1.8 J	2.2	3.8
m,p-Xylene				< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
o-Xylene				< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
Total Xylene				< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0
Metals (Total)	6010B	µg/l		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																						
Manganese																						
Others				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																				
Ethane	8015	µg/l																				
Ethylene	8015	µg/l																				
Alkalinity	E310.1	µg/l																				
Chloride	E325.3	µg/l																				
Iron, Ferrous	3500FE B	µg/l																				
Nitrate & Nitrite as N	E353.2	µg/l																				
Nitrogen, Nitrate	E353.2	µg/l																				
Nitrogen, Nitrite	E354.1	µg/l																				
Sulfate	E375.4	µg/l																				
Surfactants	E425.1	µg/l																				
Total Organic Carbon	E415.1	µg/l																				

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round highlighted in yellow.

Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.

Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

		Sample Location:	MW116 (cont.)															MW119S			
		Sample Name:	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900	MW119S	MW119S	MW119S	MW119S
		Well Screen Interval (ft bgs):	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 20	5 to 20	5 to 20	5 to 20
		Sample Date:	4/2/15	4/29/16	4/29/16	4/17/17	4/17/17	4/4/18	4/4/18	4/16/19	4/16/19	4/17/20	4/17/20	4/14/21	4/14/21	4/14/22	4/14/22	8/22/07	10/12/07	1/15/08	4/16/08
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260	µg/l	< 20	< 20	< 10	<10	<10	<10	<10	<10	<10	<25	<25	<12	<12	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0
Benzene			< 1.0	< 1.0	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	<2.5	<1.2	<1.2	<0.50	<0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 10	< 10	< 5.0	<10	<10	<10	<10	<10	<10	<25	<25	<25	<25	<5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0
Carbon disulfide			< 10	< 10	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Chloroethane			< 4.0	< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0
Chloroform			< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Chloromethane			< 4.0	< 4.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 J+
1,4-Dichlorobenzene			< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			49.9	38.3	45.0	49.4	49.8	44.1	46.2	22.7	53.9	70	75	39	40	30	29	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			50.8	27.7	36.4	35.1	34.4	19.7	20.9	9.4	31.3	30	39	27	27	20	20	< 1.0 J+	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			111	50.6	59.0	67.5	67.2	42.6	44.2	27.3	112	120	130	110	110	140	130	< 1.0 J+	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			<2.0	< 2.0	< 1.0	0.42 J	0.45 J	1.1	1.2	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			4.9	< 2.0	0.79 J	1.6	1.6	1.1	1.2	<1.0	3.5	<10	<10	<5.0	<5.0	2.3	2.2	5.2 J+	2.0	2.1	0.83 J
Methylene chloride			< 4.0	< 4.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<5.0	<5.0	<2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0
Naphthalene			< 10	< 10	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	<2.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			695	450	436	482	456	233	253	129	404	520	550	340	340	120	120	< 1.0 J+	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			<20	<20	< 10	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<5.0	<2.0	<2.0	< 10 J+	< 10	< 10	< 10
Toluene			< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			7.6	3.8	4.4	3.8	3.7	1.8	2.0	1.0	2.6	<5.0	<5.0	2.6	2.6	3.2	3.2	< 1.0 J+	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			183	113	139	131	129	83.3	86.3	37	157	200	220	120	120	35	34	< 1.0 J+	< 1.0	< 1.0	< 1.0
Vinyl chloride			3.8	< 2.0	< 1.0	1.6	1.4	<1.0	<1.0	<1.0	20.2	22	29	50	49	130	120	< 1.0 J+	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<5.0	<5.0	<2.0	<2.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
o-Xylene			< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Total Xylene			< 2.0	< 2.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<2.5	<2.5	<2.0	<2.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					
Manganese																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			
Ethane	8015	µg/l																			
Ethylene	8015	µg/l																			
Alkalinity	E310.1	µg/l																			
Chloride	E325.3	µg/l																			
Iron, Ferrous	3500FE B	µg/l																			
Nitrate & Nitrite as N	E353.2	µg/l																			
Nitrogen, Nitrate	E353.2	µg/l																			
Nitrogen, Nitrite	E354.1	µg/l																			
Sulfate	E375.4	µg/l																			
Surfactants	E425.1	µg/l																			
Total Organic Carbon	E415.1	µg/l																			

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
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Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
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Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

Sample Location:			MW119S (cont.)																	
Sample Name:			MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/2/15	4/28/16	4/18/17	4/3/18	4/16/19	4/17/20	4/14/21	4/13/22
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																		
Volatile Organic Compounds (VOCs)																				
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT
Iron																					
Manganese																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT
Methane	8015	µg/l																			
Ethane	8015	µg/l																			
Ethylene	8015	µg/l																			
Alkalinity	E310.1	µg/l																			
Chloride	E325.3	µg/l																			
Iron, Ferrous	3500FE B	µg/l																			
Nitrate & Nitrite as N	E353.2	µg/l																			
Nitrogen, Nitrate	E353.2	µg/l																			
Nitrogen, Nitrite	E354.1	µg/l																			
Sulfate	E375.4	µg/l																			
Surfactants	E425.1	µg/l																			
Total Organic Carbon	E415.1	µg/l																			

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round highlighted in yellow.

Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.

Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

			Sample Location:	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T
			Sample Name:	MW119T 42 to 47 8/22/07 GEI	MW119T 42 to 47 10/12/07 GEI	MW119T 42 to 47 1/16/08 GEI	MW119T 42 to 47 4/16/08 GEI	MW119T 42 to 47 7/15/08 GEI	MW119T 42 to 47 10/22/08 GEI	MW119T 42 to 47 1/13/09 GEI	MW119T 42 to 47 4/13/09 GEI	MW119T 42 to 47 7/15/09 GEI	MW119T 42 to 47 10/15/09 GEI	MW119T 42 to 47 4/13/10 GEI	MW119T 42 to 47 4/22/11 GEI	MW119T 42 to 47 4/16/12 GEI	MW119T 42 to 47 4/23/13 GEI	MW119T 42 to 47 5/1/14 GEI	MW119T 42 to 47 4/2/15 GEI	MW119T 42 to 47 4/28/16 GEI	MW119T 42 to 47 4/18/17 GEI	MW119T 42 to 47 4/3/18 GEI
			Well Screen Interval (ft bgs):																				
			Sample Date:																				
			Collected By:																				
Analyte	**Method**	**Units**																					
Volatile Organic Compounds (VOCs)																							
Acetone	8260	µg/l		< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10
Benzene				< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50
Bromodichloromethane				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
2-Butanone (MEK)				< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10
Carbon disulfide				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0
Chloroethane				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0
Chloroform				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
Chloromethane				9.2 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	1.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0
1,4-Dichlorobenzene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
1,1-Dichloroethane				10.4 J+	11.0	10.9	10.4	11.0	5.3	9.0	9.1	7.7	10.8 J+	10.2	9.4	6.4	5.9	5.6	5.9	4.4	4.9	4.0
1,2-Dichloroethane				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
1,1-Dichloroethylene				2.0 J+	6.4	6.0	6.2	5.8	< 1.0	5.1	5.0	4.6	6.1 J+	5.4	7.0	4.4	4.2	4.1	4.5	3.4	3.7	2.4
cis-1,2-Dichloroethylene				0.54 J J+	1.2	1.1	1.2	1.1	< 1.0	0.20 J	1.0	0.66 J	0.94 J J+	< 1.0	< 1.0	0.95 J	0.80 J	< 1.0	0.70 J	0.65 J	0.82 J	<1.0
trans-1,2-Dichloroethylene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
Methyl tert-butyl ether				4.1 J+	0.66 J	0.64 J	0.50 J	< 1.0	< 1.0	0.47 J	0.37 J	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	9.1 K-	1.5	0.98 J	< 1.0	0.55 J	<1.0
Methylene chloride				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0
Naphthalene				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0
Tetrachloroethylene (PCE)				94.3 J+	105	85.0	86.3	81.2	17.5	78.8	72.2	85.8	72.5	85.4	74.6	75.1	68.5	56.4	54.5	55.7	50.6	33.0
Tetrahydrofuran				< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10
Toluene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)				< 1.0	0.69 J	0.52 J	2.6	< 1.0	< 1.0	0.46 J	< 1.0	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	0.25 J	<1.0
Trichloroethylene (TCE)				25.9 J+	29.6	26.7	26.8	26.7	6.7	24.9	23.7	26.4	23.0	27.1	23.2	21.0	21.3	16.8	20.2	18.3	17.6	12.8
Vinyl chloride				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
m,p-Xylene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
o-Xylene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
Total Xylene				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																							
Manganese																							
Others				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																					
Ethane	8015	µg/l																					
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Nitrogen, Nitrate	E353.2	µg/l																					
Nitrogen, Nitrite	E354.1	µg/l																					
Sulfate	E375.4	µg/l																					
Surfactants	E425.1	µg/l																					
Total Organic Carbon	E415.1	µg/l																					

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F+ The result has a high bias due to matrix spike recovery above upper control limits.
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Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

		Sample Location:	MW119T (cont.)				MW120D														
		Sample Name:	MW119T	MW119T	MW119T	MW119T	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D
		Well Screen Interval (ft bgs):	42 to 47	42 to 47	42 to 47	42 to 47	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38
		Sample Date:	4/16/19	4/17/20	4/14/21	4/13/22	8/22/07	10/12/07	1/17/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260	µg/l	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10
Benzene			<0.50	<0.50	<0.50	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane			<1.0	<1.0	<1.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			<1.0	<2.0	<2.0	<2.0	12.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	0.85 J	< 2.0
1,4-Dichlorobenzene			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			1.8	4.3	2.7	1.1	23.0 J+	26.0	23.2	30.8	29.5	21.8	21.4	20.9	18.4	31.1 J+	25.1	23.1	17.0	15.8	16.2
1,2-Dichloroethane			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			<1.0	3.3	1.9	<1.0	15.6 J+	18.9	14.3	17.8	22.0	18.4	16.7	16.9	14.1	24.7 J+	19.4	23.8	15.5	14.8	16.7
cis-1,2-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	0.70 J J+	< 1.0	1.7	1.9	1.9	1.6	0.70 J	1.6	1.5	1.8 J+	1.7	2.4	1.4	1.1	< 1.0
trans-1,2-Dichloroethylene			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			<1.0	<2.0	<2.0	<2.0	6.8 J+	3.9	3.2	4.2	3.8	6.6	2.8	2.4	2.0	7.5	2.2	2.2	1.4	7.1 K-	0.78 J
Methylene chloride			<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			<5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	0.68 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			2.6	52.0	32	3.1	93.5 J+	120	113	131	103	118	84.2	114	99.3	95.0	95.9	75.0	78.5	72.0	66.4
Tetrahydrofuran			<10	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			<1.0	<1.0	<1.0	<1.0	10.3 J+	4.3	3.2	< 1.0	3.9	6.4	2.8	3.7	2.5	3.3	3.5	4.3	2.0	2.6	1.7
Trichloroethylene (TCE)			2.5	17.0	10	1.6	32.6 J+	40.1	34.7	43.4	38.7	33.2	30.4	33.8	32.0	33.1	34.8	28.3	26.1	23.6	22.1
Vinyl chloride			<1.0	<1.0	<1.0	<1.0	< 1.0	0.38 J	0.35 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0
m,p-Xylene			<1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					
Manganese																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
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5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round highlighted in yellow.

Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.

Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

		Sample Location:	MW120D (cont.)								MW120S										
		Sample Name:	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120S	MW120S	MW120S	MW1120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S
		Well Screen Interval (ft bgs):	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
		Sample Date:	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	8/22/07	10/12/07	1/15/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260	µg/l	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.56 J J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane			< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	10.3 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			16.2	11.6	11.4	12.8	3.1	16.0	12	3.8	1.1 J+	4.3	< 1.0	< 1.0	2.5	< 1.0	< 1.0	< 1.0	0.36 J	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			16.8	8.2	9.7	14.1	1.3	14	10	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			0.95 J	0.64 J	0.81 J	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			1.1	< 1.0	1.1	<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Tetrachloroethylene (PCE)			52.9	40.4	35.2	49.9	7.7	59.0	36	6.5	< 1.0	< 1.0	0.97 J	< 1.0	< 1.0	0.71 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			2.1	1.1	0.45 J	1.1	<1.0	1.2	1.2	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			21.4	15.7	13.8	18.6	3.4	21.0	14	2.9	< 1.0	< 1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			0.89 J	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					
Manganese																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			
Ethane	8015	µg/l																			
Ethylene	8015	µg/l																			
Alkalinity	E310.1	µg/l																			
Chloride	E325.3	µg/l																			
Iron, Ferrous	3500FE B	µg/l																			
Nitrate & Nitrite as N	E353.2	µg/l																			
Nitrogen, Nitrate	E353.2	µg/l																			
Nitrogen, Nitrite	E354.1	µg/l																			
Sulfate	E375.4	µg/l																			
Surfactants	E425.1	µg/l																			
Total Organic Carbon	E415.1	µg/l																			

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round highlighted in yellow.

Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
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Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

		Sample Location:	MW120S (cont.)											MW121D						
		Sample Name:	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW121D	MW121D	MW121D	MW121D	MW901	MW121D	MW900 (FD)
		Well Screen Interval (ft bgs):	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
		Sample Date:	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	4/17/20	4/14/21	4/13/22	10/22/07	1/15/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260	µg/l	< 5.0	4.2 J K-	< 10	< 10	< 10	9.3 J	<10	<10	<10	5.3	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	0.52 J	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	46.3	55.3	46.6	37.2	38.1	36.1	34.2
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	13.2	< 1.0	16.7	12.8	12.6	12.9 G	8.4 G
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.9	11.8	6.4	21.8	22.6	83.7 G	41.2 G
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	0.70 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	3.0	3.8	2.4	2.1	2.0	5.6	5.6
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	182	258	177	157	154	148 G	97.7 G
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.51 J	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	1.3	1.2	1.1	1.0	4.9	4.6
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	59.6	136	68.8	71.0	72.0	48.3 G	69.0 G
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					
Manganese																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			
Ethane	8015	µg/l																			
Ethylene	8015	µg/l																			
Alkalinity	E310.1	µg/l																			
Chloride	E325.3	µg/l																			
Iron, Ferrous	3500FE B	µg/l																			
Nitrate & Nitrite as N	E353.2	µg/l																			
Nitrogen, Nitrate	E353.2	µg/l																			
Nitrogen, Nitrite	E354.1	µg/l																			
Sulfate	E375.4	µg/l																			
Surfactants	E425.1	µg/l																			
Total Organic Carbon	E415.1	µg/l																			

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round highlighted in yellow.

Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
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Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

			MW121D (cont.)																	
Sample Location:																				
Sample Name:			MW121D	MW901 (FD)	MW121D	MW900 (FD)	MW121D	MW900 (FD)	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D
Well Screen Interval (ft bgs):			32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
Sample Date:			1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/2016	11/21/16
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0 K-	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	8.7 J	< 10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			38.2	38.3	37.2	38.1	37.6	37.9	54.8	52.9	65.8	67.7	49.9	63.4	32.1	45.0	149.0	55.7	35.9	40.2	109.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			14.0	14.2	14.1	14.2	11.0	10.4	21.8	18.0	24.1	25.5	17.6	22.3	12.7	17.6	59.7 K+	23.5	14.5	14.9	35.9
cis-1,2-Dichloroethylene			134	138	80.0	78.4	105	106	253	279	217	178	122	193	67.2	133	316	186	73.6	108	271
trans-1,2-Dichloroethylene			< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.8	< 1.0	< 1.0	2.9	< 1.0	1.5	0.57 J K+	<1.0	<1.0	<1.0	1.1
Methyl tert-butyl ether			1.8	1.8	1.7	1.9	1.4	1.4	< 1.0	0.94 J	2.0	1.7	2.1	8.6 K-	2.7	2.3	7.1 K+	2.1	1.6	0.72 J	1.7
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			112	114	121	118	140	139	115	119	219	356	223	276	124	163	224	216	216	227	139
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10 G	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			0.87 J	0.86 J	1.0	< 1.0	0.95 J	1.0	< 1.0	0.62 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	0.44 J	1.4	0.56 J	1.1	< 1.0
Trichloroethylene (TCE)			36.5	36.3	62.3	70.7	76.3	76.5	146.0	96.3	233.0	342	207	342	115	236	432	266	148	262	176
Vinyl chloride			0.32 J	0.31 J	< 1.0	< 1.0	0.56 J	0.52 J	< 1.0	< 1.0	7.4	15.2	8.5	10.2	3.4	9.5	38.4 G K-	15	7.5	18.2	23.3
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					
Manganese																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			
Ethane	8015	µg/l																			
Ethylene	8015	µg/l																			
Alkalinity	E310.1	µg/l																			
Chloride	E325.3	µg/l																			
Iron, Ferrous	3500FE B	µg/l																			
Nitrate & Nitrite as N	E353.2	µg/l																			
Nitrogen, Nitrate	E353.2	µg/l																			
Nitrogen, Nitrite	E354.1	µg/l																			
Sulfate	E375.4	µg/l																			
Surfactants	E425.1	µg/l																			
Total Organic Carbon	E415.1	µg/l																			

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. FD = Field Duplicate Sample.
6. NT = Not Tested.
7. Most recent sampling round highlighted in yellow.

Qualifying Notes:

C+ The result has a high bias due to surrogate recovery above upper control limits.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.

Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

		Sample Location:	MW121D (cont.)												MW121S						
		Sample Name:	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S
		Well Screen Interval (ft bgs):	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
		Sample Date:	4/17/17	11/8/17	4/3/18	11/15/18	4/15/19	11/22/19	4/16/20	11/18/20	4/13/21	11/30/21	4/13/22	11/29/22	10/22/07	1/15/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	<2.0	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			32.0	47.6	14.8	14.0	18.8	18.0	16.0	12.0	18	18	18	38	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			14.8	15.3	7.6	7.0	7.7	8.7	8.6	8.0	7.5	6.3	2.3	7.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			79.9	119	24.8	44.3	73.5	85.4	20	26	37	18	33	11	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			0.37 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			1.4	1.4	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 5.0	5.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			160	242	78	47.5	48.2	64.8	87	58	72	52	1.9	54	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			159	310	39.7	23.5	31.1	40.0	34.0	22.0	40	27	4.8	32.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			6.6	10.4	<1.0	6.1	9	4.5	<1.0	<1.0	<1.0	1.0	31.0	3.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					
Manganese																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			
Ethane	8015	µg/l																			
Ethylene	8015	µg/l																			
Alkalinity	E310.1	µg/l																			
Chloride	E325.3	µg/l																			
Iron, Ferrous	3500FE B	µg/l																			
Nitrate & Nitrite as N	E353.2	µg/l																			
Nitrogen, Nitrate	E353.2	µg/l																			
Nitrogen, Nitrite	E354.1	µg/l																			
Sulfate	E375.4	µg/l																			
Surfactants	E425.1	µg/l																			
Total Organic Carbon	E415.1	µg/l																			

General Notes:

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Qualifying Notes:

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F+ The result has a high bias due to matrix spike recovery above upper control limits.
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G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
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Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

			MW121S (cont.)															MW122			
Sample Location:																					
Sample Name:			MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW122	MW122	MW122	MW122
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4 to 16	4 to 16	4 to 16	4 to 16
Sample Date:			7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	4/23/13	4/30/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	4/16/20	4/13/21	4/13/22	1/30/08	4/17/08	7/14/08	10/22/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260	µg/l	< 5.0 F+	< 5.0	< 5.0 J+	< 5.0	8.2 K-	< 10	< 10	< 10	< 10	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0 J+	9.6 J	11.1	7.2
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	< 0.50	< 1.0	0.46 J	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	1.1 J	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<5.0	<5.0	<5.0	< 5.0 J+	< 10	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	13.4	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	0.61 J
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0 J+
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	19.3	30.4 C+	10.1	15.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.0	9.0 C+	1.4	4.4
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	60.6	70.7 C+	34.0	62.5
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.87 J	< 2.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	3.3	3.9 C+	1.9	5.6
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	< 5.0	< 10	2.6 J	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	477	691 C+	122	352 G
Tetrahydrofuran			< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<10	<10	<10	<2.0	<2.0	<2.0	< 10	< 20	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.48 J	< 2.0	2.8	3.7
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	3.4 C+	0.63 J	5.1
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	177	106 C+	27.0	56.9
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.32 J	< 2.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	< 1.0	< 2.0	0.92 J	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	0.67 J	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	1.6 J	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					
Manganese																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			
Ethane	8015	µg/l																			
Ethylene	8015	µg/l																			
Alkalinity	E310.1	µg/l																			
Chloride	E325.3	µg/l																			
Iron, Ferrous	3500FE B	µg/l																			
Nitrate & Nitrite as N	E353.2	µg/l																			
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Nitrogen, Nitrite	E354.1	µg/l																			
Sulfate	E375.4	µg/l																			
Surfactants	E425.1	µg/l																			
Total Organic Carbon	E415.1	µg/l																			

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F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
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Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

			MW122 (cont.)																	
Sample Location:																				
Sample Name:			MW122 4 to 16 1/12/09	MW122 4 to 16 4/13/09	MW122 4 to 16 7/15/09	MW122 4 to 16 10/14/09	MW122 4 to 16 4/12/10	MW122 4 to 16 10/27/10	MW122 4 to 16 4/20/11	MW122 4 to 16 11/16/11	MW122 4 to 16 4/17/12	MW122 4 to 16 11/12/12	MW122 4 to 16 4/23/13	MW122 4 to 16 11/18/13	MW122 4 to 16 4/30/14	MW122 4 to 16 11/18/14	MW122 4 to 16 4/2/15	MW122 4 to 16 11/19/15	MW122 4 to 16 4/28/16	MW122 4 to 16 11/21/16	MW122 4 to 16 4/17/2017
Well Screen Interval (ft bgs):																				
Sample Date:																				
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																		
Volatile Organic Compounds (VOCs)																				
Acetone	8260	µg/l	5.7	< 5.0	< 5.0 F-	< 10	3.8 J+	< 5.0	17.8	< 5.0	< 5.0	< 25 K-	< 50	< 50 K-	< 20	< 20	< 20	< 10	9.4 J	< 40	< 50
Benzene			< 0.50	< 0.50	0.23 J	< 1.0	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 2.5	< 2.5	< 2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 2.0	< 2.5
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25 K-	< 25	< 25	< 10	< 10	< 10	17.3 J	< 10	< 40	< 50
Carbon disulfide			< 5.0	< 5.0	< 5.0 F-	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 10
Chloroethane			< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0
Chloroform			< 1.0	< 1.0	< 1.0	0.75 J	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Chloromethane			< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 5.0
1,1-Dichloroethane			16.0	25.8	21.2	20.8	29.6	20.3	19.1	15.2	17.2	14.4	11.1	12.7	15.9	12.8	15.0	6.8	18.3	20.5	30.9
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
1,1-Dichloroethylene			3.4	6.1	5.3 F-	6.6	7.3	4.6	8.3	4.1	6.4	4.7 J	4.1 J	4.4 J	5.1	3.8 K+	4.5	1.6 J	5.8	5.6	7.7
cis-1,2-Dichloroethylene			91.5	61.9	39.4	109.0	58.6	117	45.5	66.4	61.5	84.7	56.2	67.2	68.0	69.3	43.8	75.7	61.3	68.5	67.2
trans-1,2-Dichloroethylene			< 1.0	0.93 J	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K+	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Methyl tert-butyl ether			2.5	3.2	3.3	2.9	2.3	2.7	2.9	2.1	2.7	2.2 J	< 5.0 K-	< 5.0	1.5 J	2.6 K+	1.8	1.0 J	1.2	< 4.0	3.7
Methylene chloride			< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	1.1 J	< 2.0	39.4	< 10
Naphthalene			< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 25
Tetrachloroethylene (PCE)			312	499 G	677	518	856	532	656	581	1000	811	938	726	592	499	784	326	734	684	910
Tetrahydrofuran			< 10	< 10	< 10	< 20	< 10	< 10	< 20	< 10	< 10	< 50 F- K-	< 50	< 50	< 20 G	< 20	< 20	< 20	< 10	< 40	< 50
Toluene			0.64 J	2.4	1.6	< 4.0	6.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	0.79 J	0.72	< 2.0	< 1.0	< 4.0	< 5.0
1,1,1-Trichloroethane (TCA)			1.1	1.7	1.7	< 2.0	1.5	< 1.0	7.5	1.4	2.2	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	2.0	< 2.0	0.92 J	< 4.0	< 5.0
Trichloroethylene (TCE)			59.6	91.7	90.2	81.1	119.0	82.1	73.1	79.0	103	88.0	93.4	76.0	98.9	58.9	82.9	44.9	98.3	87.1	102.0
Vinyl chloride			1.2	< 1.0	< 1.0 F-	4.3	< 1.0	3.6	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K-	1.8	1.2	0.73 J	< 4.0	< 5.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																					
Manganese																					
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																			
Ethane	8015	µg/l																			
Ethylene	8015	µg/l																			
Alkalinity	E310.1	µg/l																			
Chloride	E325.3	µg/l																			
Iron, Ferrous	3500FE B	µg/l																			
Nitrate & Nitrite as N	E353.2	µg/l																			
Nitrogen, Nitrate	E353.2	µg/l																			
Nitrogen, Nitrite	E354.1	µg/l																			
Sulfate	E375.4	µg/l																			
Surfactants	E425.1	µg/l																			
Total Organic Carbon	E415.1	µg/l																			

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Table 1. Chemical Testing Results - Groundwater
Capuano Center and Certain "Public Ways"
50 Tufts Street Area
Somerville, Massachusetts

		Sample Location:	MW122 (cont.)										
		Sample Name:	MW122 4 to 16 11/8/2017 GEI	MW122 4 to 16 4/3/2018 GEI	MW122 4 to 16 11/15/2018 GEI	MW122 4 to 16 4/16/2019 GEI	MW122 4 to 16 11/22/2019 GEI	MW122 4 to 16 4/16/2020 GEI	MW122 4 to 16 11/18/2020 GEI	MW122 4 to 16 4/13/2021 GEI	MW122 4 to 16 11/30/2021 GEI	MW122 4 to 16 4/13/2022 GEI	MW122 4 to 16 11/29/2022 GEI
		Well Screen Interval (ft bgs):											
		Sample Date:											
		Collected By:											
Analyte	**Method**	**Units**											
Volatile Organic Compounds (VOCs)													
Acetone	8260	µg/l	< 10	<50	<50	<20	< 50	< 50	< 50	<25	<100	<100	<50
Benzene			< 0.50	<2.5	<2.5	<1.0	< 2.5	<5.0	<5.0	<2.5	<10	<10	<5
Bromodichloromethane			< 1.0	<5.0	<5.0	<2.0	< 5.0	<10	<10	<5.0	<20	<20	<10
2-Butanone (MEK)			< 10	<50	<50	<20	< 50	< 50	< 50	<50	<100	<100	<50
Carbon disulfide			< 2.0	<10	<10	<4.0	< 10	<20	<20	<5	<40	<40	<20
Chloroethane			< 1.0	<5.0	<5.0	<2.0	< 5.0	<20	<20	<10	<40	<40	<20
Chloroform			< 1.0	<5.0	<5.0	<2.0	< 5.0	<10	<10	<10	<20	<20	<10
Chloromethane			< 1.0	<5.0	<5.0	<2.0	< 5.0	<20	<20	<10	<40	<40	<20
1,4-Dichlorobenzene			< 1.0	<5.0	<5.0	<2.0	< 5.0	<10	<10	<5	<20	<20	<10
1,1-Dichloroethane			14.8	22.7	17.0	18.8	16.4	29.0	48.0	44	46	35	24
1,2-Dichloroethane			< 1.0	<5.0	<5.0	<2.0	< 5.0	<10	<10	<5.0	<20	<20	<10
1,1-Dichloroethylene			3.9	8.1	7.3	6.1	6.9	<10	12.0	6.9	<20	<20	<10
cis-1,2-Dichloroethylene			50	64.4	71.0	69.1	95.8	150	150	110	130	130	180
trans-1,2-Dichloroethylene			< 1.0	<5.0	<5.0	<2.0	< 5.0	<10	<10	<10	<20	<20	<10
Methyl tert-butyl ether			1.1	<5.0	<5.0	2.1	3.7	<20	<20	<10	<40	<40	<20
Methylene chloride			< 2.0	<10	<10	<4.0	< 10	<20	<20	<20	<40	<40	<20
Naphthalene			< 5.0	<25	<25	<10	< 25	<20	<20	<10	<40	<40	<20
Tetrachloroethylene (PCE)			579	959	1150	1060	961	1200	1400	820	1600	1700	1200
Tetrahydrofuran			< 10	<50	<50	<2.0	< 50	<20	<20	<10	<40	<40	<20
Toluene			20.7	<5.0	<5.0	<2.0	< 5.0	<10	<10	<5.0	<20	<20	<10
1,1,1-Trichloroethane (TCA)			< 1.0	<5.0	<5.0	<2.0	< 5.0	<10	<10	<5.0	<20	<20	<10
Trichloroethylene (TCE)			63.3	110.0	122	121	131	140	170	130	220	210	160
Vinyl chloride			1.3	<5.0	<5.0	<2.0	< 5.0	<10	<10	<5.0	<20	<20	<10
m,p-Xylene			< 1.0	<5.0	<5.0	<2.0	< 5.0	<20	<20	<10	<40	<40	<20
o-Xylene			< 1.0	<5.0	<5.0	<2.0	< 5.0	<10	<10	<5.0	<20	<20	<10
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Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
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Manganese													
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
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Sulfate	E375.4	µg/l											
Surfactants	E425.1	µg/l											
Total Organic Carbon	E415.1	µg/l											

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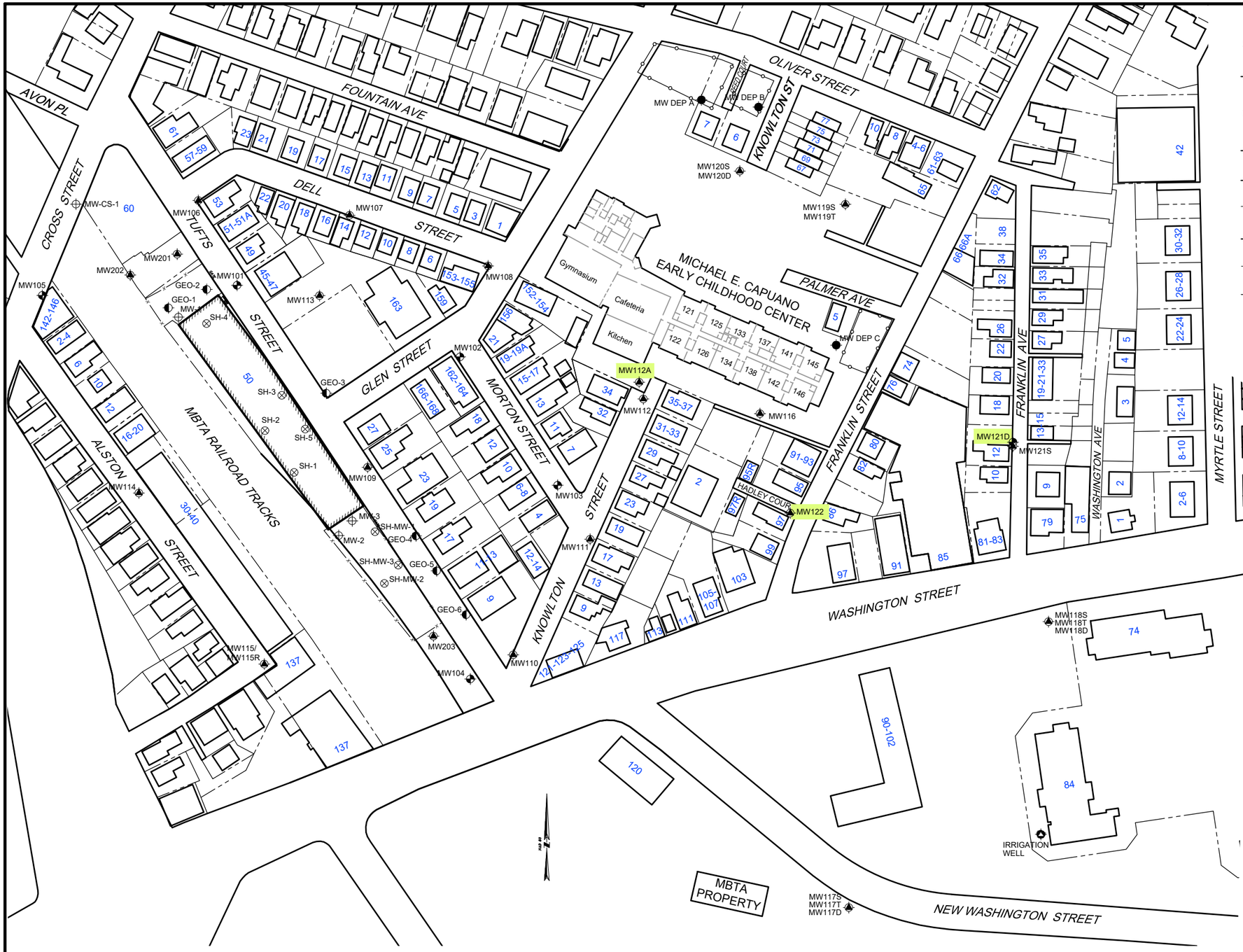

LEGEND:

- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
- MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- PREVIOUSLY INSTALLED IRRIGATION WELL
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MONITORING WELL SAMPLED DURING THIS REPORTING PERIOD

GENERAL NOTES:

1. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
2. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
3. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. STREET PROPERTY LINES, AND BUILDINGS ARE BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

0 150 300

SCALE, FEET

50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

MONITORING WELL LOCATIONS

Project 04516-3 | January 2023 | Fig. 1

B:\Private\04516\#Drafting\04516-3\Capuano Monitoring\045163 Capuano Monitoring 08

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-01 D
Client ID: 045163-MW112A
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 10:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 12/11/22 19:55
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	10	--	5
1,1-Dichloroethane	35		ug/l	5.0	--	5
Chloroform	ND		ug/l	5.0	--	5
Carbon tetrachloride	ND		ug/l	5.0	--	5
1,2-Dichloropropane	ND		ug/l	5.0	--	5
Dibromochloromethane	ND		ug/l	5.0	--	5
1,1,2-Trichloroethane	ND		ug/l	5.0	--	5
Tetrachloroethene	560		ug/l	5.0	--	5
Chlorobenzene	ND		ug/l	5.0	--	5
Trichlorofluoromethane	ND		ug/l	10	--	5
1,2-Dichloroethane	ND		ug/l	5.0	--	5
1,1,1-Trichloroethane	ND		ug/l	5.0	--	5
Bromodichloromethane	ND		ug/l	5.0	--	5
trans-1,3-Dichloropropene	ND		ug/l	2.0	--	5
cis-1,3-Dichloropropene	ND		ug/l	2.0	--	5
1,3-Dichloropropene, Total	ND		ug/l	2.0	--	5
1,1-Dichloropropene	ND		ug/l	10	--	5
Bromoform	ND		ug/l	10	--	5
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	--	5
Benzene	ND		ug/l	2.5	--	5
Toluene	ND		ug/l	5.0	--	5
Ethylbenzene	ND		ug/l	5.0	--	5
Chloromethane	ND		ug/l	10	--	5
Bromomethane	ND		ug/l	10	--	5
Vinyl chloride	ND		ug/l	5.0	--	5
Chloroethane	ND		ug/l	10	--	5
1,1-Dichloroethene	67		ug/l	5.0	--	5
trans-1,2-Dichloroethene	ND		ug/l	5.0	--	5

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-01 D
Client ID: 045163-MW112A
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 10:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	140		ug/l	5.0	--	5
1,2-Dichlorobenzene	ND		ug/l	5.0	--	5
1,3-Dichlorobenzene	ND		ug/l	5.0	--	5
1,4-Dichlorobenzene	ND		ug/l	5.0	--	5
Methyl tert butyl ether	13		ug/l	10	--	5
p/m-Xylene	ND		ug/l	10	--	5
o-Xylene	ND		ug/l	5.0	--	5
Xylenes, Total	ND		ug/l	5.0	--	5
cis-1,2-Dichloroethene	68		ug/l	5.0	--	5
1,2-Dichloroethene, Total	68		ug/l	5.0	--	5
Dibromomethane	ND		ug/l	10	--	5
1,2,3-Trichloropropane	ND		ug/l	10	--	5
Styrene	ND		ug/l	5.0	--	5
Dichlorodifluoromethane	ND		ug/l	10	--	5
Acetone	ND		ug/l	25	--	5
Carbon disulfide	ND		ug/l	10	--	5
Methyl ethyl ketone	ND		ug/l	25	--	5
Methyl isobutyl ketone	ND		ug/l	25	--	5
2-Hexanone	ND		ug/l	25	--	5
Bromochloromethane	ND		ug/l	10	--	5
Tetrahydrofuran	ND		ug/l	10	--	5
2,2-Dichloropropane	ND		ug/l	10	--	5
1,2-Dibromoethane	ND		ug/l	10	--	5
1,3-Dichloropropane	ND		ug/l	10	--	5
1,1,1,2-Tetrachloroethane	ND		ug/l	5.0	--	5
Bromobenzene	ND		ug/l	10	--	5
n-Butylbenzene	ND		ug/l	10	--	5
sec-Butylbenzene	ND		ug/l	10	--	5
tert-Butylbenzene	ND		ug/l	10	--	5
o-Chlorotoluene	ND		ug/l	10	--	5
p-Chlorotoluene	ND		ug/l	10	--	5
1,2-Dibromo-3-chloropropane	ND		ug/l	10	--	5
Hexachlorobutadiene	ND		ug/l	3.0	--	5
Isopropylbenzene	ND		ug/l	10	--	5
p-Isopropyltoluene	ND		ug/l	10	--	5
Naphthalene	ND		ug/l	10	--	5
n-Propylbenzene	ND		ug/l	10	--	5

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-01 D Date Collected: 11/29/22 10:00

Client ID: 045163-MW112A Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	10	--	5
1,2,4-Trichlorobenzene	ND		ug/l	10	--	5
1,3,5-Trimethylbenzene	ND		ug/l	10	--	5
1,2,4-Trimethylbenzene	ND		ug/l	10	--	5
Diethyl ether	ND		ug/l	10	--	5
Diisopropyl Ether	ND		ug/l	10	--	5
Ethyl-Tert-Butyl-Ether	ND		ug/l	10	--	5
Tertiary-Amyl Methyl Ether	ND		ug/l	10	--	5
1,4-Dioxane	ND		ug/l	1200	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	102		70-130

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-02 Date Collected: 11/29/22 12:30
Client ID: 045163-MW121D Date Received: 11/30/22
Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 12/11/22 20:36
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	38		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	54		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	3.0		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	7.3		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-02 Date Collected: 11/29/22 12:30

Client ID: 045163-MW121D Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	32		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	3.3		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	11		ug/l	1.0	--	1
1,2-Dichloroethene, Total	11		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-02 Date Collected: 11/29/22 12:30

Client ID: 045163-MW121D Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	104		70-130

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-04 D
Client ID: 045163-MW122
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 15:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 12/11/22 21:58
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	20	--	10
1,1-Dichloroethane	24		ug/l	10	--	10
Chloroform	ND		ug/l	10	--	10
Carbon tetrachloride	ND		ug/l	10	--	10
1,2-Dichloropropane	ND		ug/l	10	--	10
Dibromochloromethane	ND		ug/l	10	--	10
1,1,2-Trichloroethane	ND		ug/l	10	--	10
Tetrachloroethene	1200		ug/l	10	--	10
Chlorobenzene	ND		ug/l	10	--	10
Trichlorofluoromethane	ND		ug/l	20	--	10
1,2-Dichloroethane	ND		ug/l	10	--	10
1,1,1-Trichloroethane	ND		ug/l	10	--	10
Bromodichloromethane	ND		ug/l	10	--	10
trans-1,3-Dichloropropene	ND		ug/l	4.0	--	10
cis-1,3-Dichloropropene	ND		ug/l	4.0	--	10
1,3-Dichloropropene, Total	ND		ug/l	4.0	--	10
1,1-Dichloropropene	ND		ug/l	20	--	10
Bromoform	ND		ug/l	20	--	10
1,1,2,2-Tetrachloroethane	ND		ug/l	10	--	10
Benzene	ND		ug/l	5.0	--	10
Toluene	ND		ug/l	10	--	10
Ethylbenzene	ND		ug/l	10	--	10
Chloromethane	ND		ug/l	20	--	10
Bromomethane	ND		ug/l	20	--	10
Vinyl chloride	ND		ug/l	10	--	10
Chloroethane	ND		ug/l	20	--	10
1,1-Dichloroethene	ND		ug/l	10	--	10
trans-1,2-Dichloroethene	ND		ug/l	10	--	10

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-04 D
Client ID: 045163-MW122
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 15:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	160		ug/l	10	--	10
1,2-Dichlorobenzene	ND		ug/l	10	--	10
1,3-Dichlorobenzene	ND		ug/l	10	--	10
1,4-Dichlorobenzene	ND		ug/l	10	--	10
Methyl tert butyl ether	ND		ug/l	20	--	10
p/m-Xylene	ND		ug/l	20	--	10
o-Xylene	ND		ug/l	10	--	10
Xylenes, Total	ND		ug/l	10	--	10
cis-1,2-Dichloroethene	180		ug/l	10	--	10
1,2-Dichloroethene, Total	180		ug/l	10	--	10
Dibromomethane	ND		ug/l	20	--	10
1,2,3-Trichloropropane	ND		ug/l	20	--	10
Styrene	ND		ug/l	10	--	10
Dichlorodifluoromethane	ND		ug/l	20	--	10
Acetone	ND		ug/l	50	--	10
Carbon disulfide	ND		ug/l	20	--	10
Methyl ethyl ketone	ND		ug/l	50	--	10
Methyl isobutyl ketone	ND		ug/l	50	--	10
2-Hexanone	ND		ug/l	50	--	10
Bromochloromethane	ND		ug/l	20	--	10
Tetrahydrofuran	ND		ug/l	20	--	10
2,2-Dichloropropane	ND		ug/l	20	--	10
1,2-Dibromoethane	ND		ug/l	20	--	10
1,3-Dichloropropane	ND		ug/l	20	--	10
1,1,1,2-Tetrachloroethane	ND		ug/l	10	--	10
Bromobenzene	ND		ug/l	20	--	10
n-Butylbenzene	ND		ug/l	20	--	10
sec-Butylbenzene	ND		ug/l	20	--	10
tert-Butylbenzene	ND		ug/l	20	--	10
o-Chlorotoluene	ND		ug/l	20	--	10
p-Chlorotoluene	ND		ug/l	20	--	10
1,2-Dibromo-3-chloropropane	ND		ug/l	20	--	10
Hexachlorobutadiene	ND		ug/l	6.0	--	10
Isopropylbenzene	ND		ug/l	20	--	10
p-Isopropyltoluene	ND		ug/l	20	--	10
Naphthalene	ND		ug/l	20	--	10
n-Propylbenzene	ND		ug/l	20	--	10

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-04 D
Client ID: 045163-MW122
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 15:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	20	--	10
1,2,4-Trichlorobenzene	ND		ug/l	20	--	10
1,3,5-Trimethylbenzene	ND		ug/l	20	--	10
1,2,4-Trimethylbenzene	ND		ug/l	20	--	10
Diethyl ether	ND		ug/l	20	--	10
Diisopropyl Ether	ND		ug/l	20	--	10
Ethyl-Tert-Butyl-Ether	ND		ug/l	20	--	10
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	10
1,4-Dioxane	ND		ug/l	2500	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Appendix C

Kleinfelder Soil, GLX Soil Precharacterization Data, and Contained-In Determinations

Tables

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Green Line Extension
Washington Street Area
Soil - Volatile Organic Compounds

			Location	B-S004-1	B-S004-2	B-S004-3	B-S004-4	B-S004-5	B-S004-6	B-S0B-1	S-BB-2	S-BB-3	S-BB-4	MW-5	MW-5R	KE-117	WASHINGTON ST_ZONE 1	WASHINGTON ST_ZONE 2	WASHINGTON ST_ZONE 3
			Start Depth	21	25	0	6	0	4	0	0	10	4	2	18	0.5	0	14	19
			End Depth	23	27	2	8	2	6	2	2	12	6	4	20	4	14	19	26
			Sample Date	5/24/2010	5/24/2010	5/21/2010	5/20/2010	5/19/2010	5/18/2010	5/13/2010	5/13/2010	5/14/2010	5/14/2010	5/14/2010	9/27/2012	8/23/2012	9/13/2012	9/13/2012	9/13/2012
Analyte	RCS-1	RCS-2	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	<0.011	<0.015	<0.011	<0.10	<0.011	<0.012	<0.011	<0.011	<0.011	<0.012	<0.011	<0.011	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1,1-Trichloroethane	30	600	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1,2,2-Tetrachloroethane	0.005	0.02	mg/kg	<0.011	<0.015	<0.011	<0.10	<0.011	<0.012	<0.011	<0.011	<0.011	<0.012	<0.011	<0.011	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1,2-Trichloroethane	0.1	2	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1-Dichloroethane	0.4	9	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1-Dichloroethylene	3	40	mg/kg	< 0.057	**0.09**	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,1-Dichloropropene	0.01	0.1	mg/kg	<0.011	<0.015	<0.011	<0.10	<0.011	<0.012	<0.011	<0.011	<0.011	<0.012	<0.011	<0.011	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,2,3-Trichlorobenzene	-	-		< 0.28	< 0.36	< 0.27	< 5.1	< 0.30	< 0.32	< 0.34	< 0.34	< 0.30	< 0.34	< 0.33	<0.2	< 0.3	< 0.21	< 0.18	< 0.2
1,2,3-Trichloropropane	100	1000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
1,2,4-Trichlorobenzene	2	6	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.1	< 0.074	< 0.11	< 0.092	< 0.1
1,2,4-Trimethylbenzene	1000	10000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	**0.12**	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,2-Dibromo-3-chloropropane	10	100	mg/kg	< 0.57	< 0.73	< 0.53	<10	< 0.59	< 0.65	< 0.68	< 0.68	< 0.61	< 0.68	< 0.66	<0.2	< 0.37	< 0.21	< 0.18	< 0.2
1,2-Dibromoethane (Ethylene Dibromide)	-	-		< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.25	< 0.037	< 0.026	< 0.023	< 0.025
1,2-Dichlorobenzene	9	100	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,2-Dichloroethane	0.1	0.1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,2-Dichloropropane	0.1	0.1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,3,5-Trimethylbenzene	10	100	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,3-Dichlorobenzene	1	200	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,3-Dichloropropane	500	5000	mg/kg	< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.025	< 0.037	< 0.026	< 0.023	< 0.025
1,4-Dichlorobenzene	0.7	1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
1,4-Dioxane	0.2	6	mg/kg	<2.8	<3.6	<2.7	<51	<3.0	<3.2	<3.4	<3.4	<3.0	<3.4	<3.3	<0.25	<3.7	<2.6	<2.3	<2.5
2,2-Dichloropropane	0.1	0.1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
2-Butanone	4	50	mg/kg	< 1.1	< 1.5	< 1.1	<20	< 1.2	< 1.3	< 1.4	< 1.4	< 1.2	< 1.4	< 1.3	<1	< 1.5	< 1.1	< 0.92	< 1
2-Chlorotoluene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
2-Hexanone	100	1000	mg/kg	< 0.57	< 0.73	< 0.53	< 10	< 0.59	< 0.65	< 0.68	< 0.68	< 0.61	< 0.68	< 0.66	<0.051	< 0.74	< 0.53	< 0.46	< 0.51
4-Chlorotoluene	100	1000	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
4-Isopropyltoluene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
4-Methyl-2-pentanone	0.4	50	mg/kg	<0.57	<0.73	<0.53	<10	<0.59	<0.65	<0.68	<0.68	<0.61	<0.68	<0.66	<0.051	<0.74	<0.53	<0.46	<0.51
Acetone	6	50	mg/kg	< 2.8	< 3.6	< 2.7	<51	< 3.0	< 3.2	< 3.4	< 3.4	< 3.0	< 3.4	< 3.3	<2.5	< 3.7	< 2.6	< 2.3	< 2.5
Benzene	2	200	mg/kg	< 0.060	< 0.073	< 0.053	< 0.098	< 0.059	< 0.065	< 0.068	< 0.066	< 0.070	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Bromobenzene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Bromochloromethane	-	-		< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Bromodichloromethane	0.1	0.1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Bromoform	0.1	1	mg/kg	<0.11	<0.15	<0.11	<2.0	<0.12	<0.13	<0.14	<0.14	<0.12	<0.14	<0.13	<0.051	<0.74	< 0.053	< 0.046	< 0.051
Bromomethane	0.5	0.5	mg/kg	<0.57	<0.73	<0.53	<10	<0.59	<0.65	<0.68	<0.68	<0.61	<0.68	<0.66	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Carbon disulfide	100	1000	mg/kg	< 0.57	< 0.73	< 0.53	< 10	< 0.59	< 0.65	< 0.68	< 0.68	< 0.61	< 0.68	< 0.66	<0.051	< 0.74	< 0.53	< 0.46	< 0.51
Carbon tetrachloride	5	5	mg/kg	< 0.23	< 0.29	< 0.21	< 4.1	< 0.24	< 0.26	< 0.27	< 0.27	< 0.24	< 0.27	< 0.26	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Chlorobenzene	1	3	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Chloroethane	100	1000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Chloroform	0.2	0.2	mg/kg	< 0.11	<0.15	< 0.11	<2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	<0.15	< 0.11	< 0.092	< 0.1
Chloromethane	100	1000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Chlorotoluene	-	-		< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066		NT	NT	NT	NT
cis-1,2-Dichloroethylene	0.1	0.1	mg/kg	< 0.057	0.74	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
cis-1,3-Dichloropropene	0.01	0.1	mg/kg	<0.028	<0.036	<0.027	<0.51	<0.030	<0.032	<0.034	<0.034	<0.030	<0.034	<0.033	<0.051	<0.074	<0.026	<0.023	<0.025
Dibromochloromethane	0.005	0.03	mg/kg	<0.011	<0.015	<0.011	<2.0	<0.012	<0.013	<0.014	<0.014	<0.012	<0.014	<0.013	<0.1	<0.15	<0.011	<0.092	<0.1
Dibromomethane	500	5000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Dichlorodifluoromethane	1000	10000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Diethyl ether	100	1000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Ethyl tert-butyl ether	-	-		< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.25	< 0.037	< 0.026	< 0.023	< 0.025
Ethylbenzene	40	1000	mg/kg	< 0.060	< 0.073	< 0.053	< 0.098	< 0.059	< 0.065	< 0.068	< 0.066	< 0.070	< 0.068	**0.09**	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Hexachlorobutadiene	30	100	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Isopropyl ether	100	1000	mg/kg	< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.25	< 0.037	< 0.026	< 0.023	< 0.025
Isopropylbenzene	1000	10000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
m/p-Xylene	100	100	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	**0.21**	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Methyl tert-butyl ether	0.1	100	mg/kg	< 0.060	< 0.073	< 0.053	<0.098	< 0.059	< 0.065	< 0.068	< 0.066	< 0.070	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Methylene chloride	0.1	20	mg/kg	<0.28	<0.36	<0.27	<5.1	<0.30	<0.32	<0.34	<0.34	<0.30	<0.34	<0.33	<0.25	<0.37	<0.26	<0.23	<0.25
Naphthalene	4	20	mg/kg	< 0.60	< 0.15	< 0.11	< 0.98	**0.35**	< 0.13	**0.19**	< 0.66	< 0.70	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
n-Butylbenzene	-	-		< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
o-Xylene	100	100	mg/kg	< 0.060	< 0.073	< 0.053	< 0.098	< 0.059	< 0.065	**0.07**	< 0.066	< 0.070	< 0.068	**0.11**	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Propylbenzene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
sec-Butylbenzene	-	-		< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.097	< 0.074	< 0.053	< 0.046	< 0.051
Styrene	3	4	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
tert-Amyl methyl ether	-	-		< 0.028	< 0.036	< 0.027	< 0.51	< 0.030	< 0.032	< 0.034	< 0.034	< 0.030	< 0.034	< 0.033	<0.25	< 0.037	< 0.026	< 0.023	< 0.025
tert-Butylbenzene	100	1000	mg/kg	< 0.057	< 0.073	< 0.053	< 1.0	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Tetrachloroethylene	1	10	mg/kg	**0.49**	24.01	< 0.053	<0.10	**0.21**	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Tetrahydrofuran	500	5000	mg/kg	< 0.57	< 0.73	< 0.53	< 10	< 0.59	< 0.65	< 0.68	< 0.68	< 0.61	< 0.68	< 0.66	<0.2	< 0.3	< 0.21	< 0.18	< 0.2
Toluene	30	1000	mg/kg	< 0.060	< 0.073	< 0.053	< 0.098	**0.17**	**0.09**	**0.09**	< 0.066	< 0.070	< 0.068	**0.13**	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
trans-1,2-Dichloroethylene	1	1	mg/kg	< 0.057	< 0.073	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
trans-1,3-Dichloropropene	0.01	0.1	mg/kg	<0.028	<0.036	<0.027	<0.51	<0.030	<0.032	<0.034	<0.034	<0.030	<0.034	<0.033	<0.25	<0.037	<0.026	<0.023	<0.025
Trichloroethylene	0.3	0.3	mg/kg	< 0.057	2.70	< 0.053	<0.10	< 0.059	< 0.065	< 0.068	< 0.068	< 0.061	< 0.068	< 0.066	<0.051	< 0.074	< 0.053	< 0.046	< 0.051
Trichlorofluoromethane	1000	10000	mg/kg	< 0.11	< 0.15	< 0.11	< 2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1
Vinyl chloride	0.7	0.7	mg/kg	< 0.11	< 0.15	< 0.11	<2.0	< 0.12	< 0.13	< 0.14	< 0.14	< 0.12	< 0.14	< 0.13	<0.1	< 0.15	< 0.11	< 0.092	< 0.1

Notes:

Bold - Analyte detected above laboratory detection limits
Bold and Shaded (Blue) - Analyte detected above RCS-1
Underlined - Analyte detected above RCS-2
Bold and Gray: RL > RCS-1
-- No standard promulgated
NT- Not tested

Kleinfelder

Green Line Extension
Washington Street Area
Soil - Volatile Organic Compounds

			Location	WASHINGTON ST_ZONE 4	NDB-26	NDB-27	KE-202-WS-D	KE-202-WS-D	KE-202-WS-S	KE-204-WS	KE-204-WS	KE-205-WS	KE-205-WS	KE-206-WS	KE-206-WS	KE-207-WS	KE-208-WS	KE-209-WS	KE-210-WS	KE-210-WS
			Start Depth	26	0.5	6.5	19	24	14	0	18	0	14	10	17	14	8	15	6	15
			End Depth	32	12	27	21	26	16	1	20	2	16	10.5	19	16	8.5	17	6.5	17
			Sample Date	9/13/2012	1/7/2014	1/6/2014	3/25/2014	3/25/2014	3/25/2014	3/25/2014	4/2/2014	4/1/2014	4/1/2014	3/25/2014	4/3/2014	3/31/2014	3/25/2014	3/26/2014	3/26/2014	4/7/2014
Analyte	RCS-1	RCS-2	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,1,1-Trichloroethane	30	600	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	**0.01**	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	**0.04**
1,1,2,2-Tetrachloroethane	0.005	0.02	mg/kg	< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
1,1,2-Trichloroethane	0.1	2	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,1-Dichloroethane	0.4	9	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	**0.01**	**0.04**
1,1-Dichloroethylene	3	40	mg/kg	< 0.045	< 0.0072	< 0.0082	< 0.0031	< 0.0028	< 0.0027	< 0.0033	< 0.0049	< 0.0055	< 0.0045	< 0.0034	< 0.0059	< 0.0049	< 0.0034	< 0.0031	< 0.0055	**0.03**
1,1-Dichloropropene	0.01	0.1	mg/kg	< 0.05	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2,3-Trichlorobenzene	–	–		< 0.18	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
1,2,3-Trichloropropane	100	1000	mg/kg	< 0.09	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2,4-Trichlorobenzene	2	6	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
1,2,4-Trimethylbenzene	1000	10000	mg/kg	< 0.045	**0.03**	< 0.0082	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2-Dibromo-3-chloropropane	10	100	mg/kg	< 0.18	< 0.018	< 0.02	< 0.0077	< 0.0014	< 0.0067	< 0.0017	< 0.012	< 0.014	< 0.011	< 0.0017	< 0.015	< 0.012	< 0.0017	< 0.0078	< 0.014	< 0.016
1,2-Dibromoethane (Ethylene Dibromide)	–	–		< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
1,2-Dichlorobenzene	9	100	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2-Dichloroethane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,2-Dichloropropane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,3,5-Trimethylbenzene	10	100	mg/kg	< 0.045	**0.01**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,3-Dichlorobenzene	1	200	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,3-Dichloropropane	500	5000	mg/kg	< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
1,4-Dichlorobenzene	0.7	1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
1,4-Dioxane	0.2	6	mg/kg	< 2.3	< 0.18	< 0.2	< 0.077	< 0.071	< 0.067	< 0.083	< 0.12	< 0.14	< 0.11	< 0.084	< 0.15	< 0.12	< 0.086	< 0.078	< 0.14	< 0.16
2,2-Dichloropropane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0077	< 0.0014	< 0.0067	< 0.0017	< 0.012	< 0.014	< 0.011	< 0.0017	< 0.015	< 0.012	< 0.0017	< 0.0078	< 0.014	< 0.016
2-Butanone	4	50	mg/kg	< 0.9	< 0.072	< 0.082	< 0.031	< 0.028	< 0.027	< 0.033	< 0.049	< 0.055	< 0.045	< 0.034	< 0.059	< 0.049	< 0.034	< 0.031	< 0.055	< 0.062
2-Chlorotoluene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
2-Hexanone	100	1000	mg/kg	< 0.45	< 0.072	< 0.082	< 0.015	< 0.014	< 0.013	< 0.017	< 0.024	< 0.027	< 0.022	< 0.017	< 0.029	< 0.025	< 0.017	< 0.016	< 0.028	< 0.031
4-Chlorotoluene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
4-Isopropyltoluene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
4-Methyl-2-pentanone	0.4	50	mg/kg	< 0.45	< 0.036	< 0.041	< 0.015	< 0.014	< 0.013	< 0.017	< 0.024	< 0.027	< 0.022	< 0.017	< 0.029	< 0.025	< 0.017	< 0.016	< 0.028	< 0.031
Acetone	6	50	mg/kg	< 2.3	< 0.18	< 0.2	< 0.077	< 0.071	< 0.067	< 0.083	< 0.12	< 0.14	< 0.11	< 0.084	< 0.15	< 0.12	< 0.086	< 0.078	< 0.14	< 0.16
Benzene	2	200	mg/kg	< 0.045	**0.01**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromobenzene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromochloromethane	–	–		< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromodichloromethane	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromoform	0.1	1	mg/kg	< 0.045	< 0.018	< 0.02	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Bromomethane	0.5	0.5	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Carbon disulfide	100	1000	mg/kg	< 0.45	< 0.011	< 0.012	< 0.0046	< 0.0043	< 0.004	< 0.005	< 0.0073	< 0.0082	< 0.0067	< 0.0051	< 0.0088	< 0.0074	< 0.0051	< 0.0047	< 0.0083	< 0.0093
Carbon tetrachloride	5	5	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Chlorobenzene	1	3	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Chloroethane	100	1000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Chloroform	0.2	0.2	mg/kg	< 0.09	< 0.0072	< 0.0082	< 0.0031	< 0.0028	< 0.0027	< 0.0033	< 0.0049	< 0.0055	< 0.0045	< 0.0034	< 0.0059	< 0.0049	< 0.0034	< 0.0031	< 0.0055	< 0.0062
Chloromethane	100	1000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Chlorotoluene	–	–		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
cis-1,2-Dichloroethylene	0.1	0.1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	**0.01**	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	**0.03**	< 0.0016	**0.04**	< 0.0031
cis-1,3-Dichloropropene	0.01	0.1	mg/kg	< 0.023	< 0.0072	< 0.0082	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
Dibromochloromethane	0.005	0.03	mg/kg	< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
Dibromomethane	500	5000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Dichlorodifluoromethane	1000	10000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Diethyl ether	100	1000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Ethyl tert-butyl ether	–	–		< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
Ethylbenzene	40	1000	mg/kg	< 0.045	**0.02**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Hexachlorobutadiene	30	100	mg/kg	< 0.045	< 0.0072	< 0.0082	< 0.0031	< 0.0014	< 0.0027	< 0.0017	< 0.0049	< 0.055	< 0.0045	< 0.0017	< 0.0059	< 0.0049	< 0.0017	< 0.0031	< 0.0055	< 0.0062
Isopropyl ether	100	1000	mg/kg	< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
Isopropylbenzene	1000	10000	mg/kg	< 0.045	**0.01**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
m/p-Xylene	100	100	mg/kg	< 0.09	**0.01**	< 0.0082	< 0.0031	< 0.0028	< 0.0027	< 0.0033	< 0.0049	< 0.0055	< 0.0045	< 0.0034	< 0.0059	< 0.0049	< 0.0034	< 0.0031	< 0.0055	< 0.0062
Methyl tert-butyl ether	0.1	100	mg/kg	< 0.045	< 0.0072	< 0.0082	< 0.0031	< 0.0028	< 0.0027	< 0.0033	< 0.0049	< 0.0055	< 0.0045	< 0.0034	< 0.0059	< 0.0049	< 0.0034	< 0.0031	< 0.0055	< 0.0062
Methylene chloride	0.1	20	mg/kg	< 0.23	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	**0.02**	< 0.016
Naphthalene	4	20	mg/kg	< 0.09	**0.03**	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
n-Butylbenzene	–	–		< 0.045	< 0.0072	< 0.0082	< 0.0031	< 0.0014	< 0.0027	< 0.0017	< 0.0049	< 0.0055	< 0.0045	< 0.0017	< 0.0059	< 0.0049	< 0.0017	< 0.0031	< 0.0055	< 0.0062
o-Xylene	100	100	mg/kg	< 0.045	**0.02**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Propylbenzene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
sec-Butylbenzene	–	–		< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
Styrene	3	4	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
tert-Amyl methyl ether	–	–		< 0.023	< 0.0018	< 0.002	< 0.00077	< 0.00071	< 0.00067	< 0.00083	< 0.0012	< 0.0014	< 0.0011	< 0.00084	< 0.0015	< 0.0012	< 0.00086	< 0.00078	< 0.0014	< 0.0016
tert-Butylbenzene	100	1000	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0031	< 0.0014	< 0.0027	< 0.0017	< 0.0049	< 0.0055	< 0.0045	< 0.0017	< 0.0059	< 0.0049	< 0.0017	< 0.0031	< 0.0055	< 0.0062
Tetrachloroethylene	1	10	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	**0.04**	< 0.0013	< 0.0017	**0.01**	< 0.0027	< 0.0022	2.5 [1]	**0.04**	< 0.0025	2.5 [1]	< 0.0016	**0.05**	0.20
Tetrahydrofuran	500	5000	mg/kg	< 0.18	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Toluene	30	1000	mg/kg	< 0.045	**0.00**	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	< 0.0028	< 0.0031
trans-1,2-Dichloroethylene	1	1	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	< 0.0014	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	< 0.0017	< 0.0029	< 0.0025	< 0.0017	< 0.0016	**0.00**	< 0.0031
trans-1,3-Dichloropropene	0.01	0.1	mg/kg	< 0.023	< 0.0018	< 0.002	< 0.0031	< 0.00071	< 0.0027	< 0.00083	< 0.0049	< 0.0055	< 0.0045	< 0.00084	< 0.0059	< 0.0049	< 0.00086	< 0.0031	< 0.0055	< 0.0062
Trichloroethylene	0.3	0.3	mg/kg	< 0.045	< 0.0036	< 0.0041	< 0.0015	**0.01**	< 0.0013	< 0.0017	< 0.0024	< 0.0027	< 0.0022	**0.03**	< 0.0029	< 0.0025	**0.02**	< 0.0016	**0.05**	**0.19**
Trichlorofluoromethane	1000	10000	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016
Vinyl chloride	0.7	0.7	mg/kg	< 0.09	< 0.018	< 0.02	< 0.0077	< 0.0071	< 0.0067	< 0.0083	< 0.012	< 0.014	< 0.011	< 0.0084	< 0.015	< 0.012	< 0.0086	< 0.0078	< 0.014	< 0.016

Notes:

Bold - Analyte detected above laboratory detection limits
Bold and Shaded (Blue) - Analyte detected above RCS-1
Underlined - Analyte detected above RCS-2
Bold and Gray: RL > RCS-1
-- No standard promulgated
NT- Not tested

Kleinfelder

Green Line Extension
Washington Street Area
Soil - Volatile Organic Compounds

			Location	KE-211-WS	KE-211-WS
			Start Depth	0	24
			End Depth	6	25
			Sample Date	3/26/2014	3/29/2014
Analyte	RCS-1	RCS-2	Unit	Result	Result
1,1,1,2-Tetrachloroethane	0.1	0.1	mg/kg	< 0.0023	< 0.0015
1,1,1-Trichloroethane	30	600	mg/kg	**0.00**	< 0.0015
1,1,2,2-Tetrachloroethane	0.005	0.02	mg/kg	< 0.0011	< 0.00076
1,1,2-Trichloroethane	0.1	2	mg/kg	< 0.0023	< 0.0015
1,1-Dichloroethane	0.4	9	mg/kg	< 0.0023	< 0.0015
1,1-Dichloroethylene	3	40	mg/kg	< 0.0046	< 0.0031
1,1-Dichloropropene	0.01	0.1	mg/kg	< 0.0023	< 0.0015
1,2,3-Trichlorobenzene				< 0.011	< 0.0076
1,2,3-Trichloropropane	100	1000	mg/kg	< 0.0023	< 0.0015
1,2,4-Trichlorobenzene	2	6	mg/kg	< 0.011	< 0.0076
1,2,4-Trimethylbenzene	1000	10000	mg/kg	< 0.0023	< 0.0015
1,2-Dibromo-3-chloropropane	10	100	mg/kg	< 0.011	< 0.0076
1,2-Dibromoethane (Ethylene Dibromide)	--	--		< 0.0011	< 0.00076
1,2-Dichlorobenzene	9	100	mg/kg	< 0.0023	< 0.0015
1,2-Dichloroethane	0.1	0.1	mg/kg	< 0.0023	< 0.0015
1,2-Dichloropropane	0.1	0.1	mg/kg	< 0.0023	< 0.0015
1,3,5-Trimethylbenzene	10	100	mg/kg	< 0.0023	< 0.0015
1,3-Dichlorobenzene	1	200	mg/kg	< 0.0023	< 0.0015
1,3-Dichloropropane	500	5000	mg/kg	< 0.0011	< 0.00076
1,4-Dichlorobenzene	0.7	1	mg/kg	< 0.0023	< 0.0015
1,4-Dioxane	0.2	6	mg/kg	< 0.11	< 0.076
2,2-Dichloropropane	0.1	0.1	mg/kg	< 0.011	< 0.0076
2-Butanone	4	50	mg/kg	< 0.046	< 0.031
2-Chlorotoluene	100	1000	mg/kg	< 0.0023	< 0.0015
2-Hexanone	100	1000	mg/kg	< 0.023	< 0.015
4-Chlorotoluene	100	1000	mg/kg	< 0.0023	< 0.0015
4-Isopropyltoluene	100	1000	mg/kg	< 0.0023	< 0.0015
4-Methyl-2-pentanone	0.4	50	mg/kg	< 0.023	< 0.015
Acetone	6	50	mg/kg	< 0.11	< 0.076
Benzene	2	200	mg/kg	< 0.0023	< 0.0015
Bromobenzene	100	1000	mg/kg	< 0.0023	< 0.0015
Bromochloromethane	--	--		< 0.0023	< 0.0015
Bromodichloromethane	0.1	0.1	mg/kg	< 0.0023	< 0.0015
Bromoform	0.1	1	mg/kg	< 0.0023	< 0.0015
Bromomethane	0.5	0.5	mg/kg	< 0.011	< 0.0076
Carbon disulfide	100	1000	mg/kg	< 0.0069	< 0.0046
Carbon tetrachloride	5	5	mg/kg	< 0.0023	< 0.0015
Chlorobenzene	1	3	mg/kg	< 0.0023	< 0.0015
Chloroethane	100	1000	mg/kg	< 0.011	< 0.0076
Chloroform	0.2	0.2	mg/kg	< 0.0046	< 0.0031
Chloromethane	100	1000	mg/kg	< 0.011	< 0.0076
Chlorotoluene	--	--		NT	NT
cis-1,2-Dichloroethylene	0.1	0.1	mg/kg	< 0.0023	< 0.0015
cis-1,3-Dichloropropene	0.01	0.1	mg/kg	< 0.0011	< 0.00076
Dibromochloromethane	0.005	0.03	mg/kg	< 0.0011	< 0.00076
Dibromomethane	500	5000	mg/kg	< 0.0023	< 0.0015
Dichlorodifluoromethane	1000	10000	mg/kg	< 0.011	< 0.0076
Diethyl ether	100	1000	mg/kg	< 0.011	< 0.0076
Ethyl tert-butyl ether	--	--		< 0.0011	< 0.00076
Ethylbenzene	40	1000	mg/kg	< 0.0023	< 0.0015
Hexachlorobutadiene	30	100	mg/kg	< 0.0046	< 0.0031
Isopropyl ether	100	1000	mg/kg	< 0.0011	< 0.00076
Isopropylbenzene	1000	10000	mg/kg	< 0.0023	< 0.0015
m/p-Xylene	100	100	mg/kg	< 0.0046	< 0.0031
Methyl tert-butyl ether	0.1	100	mg/kg	< 0.0046	< 0.0031
Methylene chloride	0.1	20	mg/kg	< 0.011	< 0.0076
Naphthalene	4	20	mg/kg	< 0.011	< 0.0076
n-Butylbenzene	--	--		< 0.0046	< 0.0031
o-Xylene	100	100	mg/kg	< 0.0023	< 0.0015
Propylbenzene	100	1000	mg/kg	< 0.0023	< 0.0015
sec-Butylbenzene	--	--		< 0.0023	< 0.0015
Styrene	3	4	mg/kg	< 0.0023	< 0.0015
tert-Amyl methyl ether	--	--		< 0.0011	< 0.00076
tert-Butylbenzene	100	1000	mg/kg	< 0.0046	< 0.0031
Tetrachloroethylene	1	10	mg/kg	**0.07**	< 0.0015
Tetrahydrofuran	500	5000	mg/kg	< 0.011	< 0.0076
Toluene	30	1000	mg/kg	< 0.0023	< 0.0015
trans-1,2-Dichloroethylene	1	1	mg/kg	< 0.0023	< 0.0015
trans-1,3-Dichloropropene	0.01	0.1	mg/kg	< 0.0046	< 0.0031
Trichloroethylene	0.3	0.3	mg/kg	**0.00**	< 0.0015
Trichlorofluoromethane	1000	10000	mg/kg	< 0.011	< 0.0076
Vinyl chloride	0.7	0.7	mg/kg	< 0.011	< 0.0076

Notes:

Bold - Analyte detected above laboratory detection limits
Bold and Shaded (Blue) - Analyte detected above RCS-1
Underlined - Analyte detected above RCS-2
Bold and Gray: RL > RCS-1
-- No standard promulgated
NT- Not tested

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					Sample Location:	**GLX-TPW-413**							**GLX-TPW-414**	
					Sample Depth^:	2 ft		2 ft		10 ft			3 ft	
					Sample Date:	4/6/2020		4/6/2020		4/6/2020			4/15/2020	
Analysis	Analyte	Unit	S-1/GW-1	S-1/GW-2	S-1/GW-3	Low VOC		High VOC						
VOCs														
	Methylene chloride	mg/kg	0.1	4	400	0.0066	U	0.4	U	0.003	U		0.0041	U
	1,1-Dichloroethane	mg/kg	0.4	9	500	0.0013	U	0.081	U	0.0006	U		0.00082	U
	Chloroform	mg/kg	0.4	0.2	500	0.002	U	0.12	U	0.00089	U		0.0012	U
	Carbon tetrachloride	mg/kg	10	5	30	0.0013	U	0.081	U	0.0006	U		0.00082	U
	1,2-Dichloropropane	mg/kg	0.1	0.1	30	0.0013	U	0.081	U	0.0006	U		0.00082	U
	Dibromochloromethane	mg/kg	0.005	0.03	20	0.0013	U	0.081	U	0.0006	U		0.00082	U
	1,1,2-Trichloroethane	mg/kg	0.1	2	40	0.0013	U	0.081	U	0.0006	U		0.00082	U
	Tetrachloroethene	mg/kg	1	10	30	**0.0054**		**0.21**		**0.0033**			0.00041	U
	Chlorobenzene	mg/kg	1	3	100	0.00066	U	0.04	U	0.0003	U		0.00041	U
	Trichlorofluoromethane	mg/kg	NS	NS	NS	0.0052	U	0.32	U	0.0024	U		0.0033	U
	1,2-Dichloroethane	mg/kg	0.1	0.1	20	0.0013	U	0.081	U	0.0006	U		0.00082	U
	1,1,1-Trichloroethane	mg/kg	30	500	500	0.00066	U	0.04	U	0.0003	U		0.00041	U
	Bromodichloromethane	mg/kg	0.1	0.1	30	0.00066	U	0.04	U	0.0003	U		0.00041	U
	trans-1,3-Dichloropropene	mg/kg	0.01(2)	0.4(2)	20(2)	0.0013	U	0.081	U	0.0006	U		0.00082	U
	cis-1,3-Dichloropropene	mg/kg	0.01(2)	0.4(2)	20(2)	0.00066	U	0.04	U	0.0003	U		0.00041	U
	1,3-Dichloropropene, Total	mg/kg	0.01	0.4	20	0.00066	U	0.04	U	0.0003	U		0.00041	U
	1,1-Dichloropropene	mg/kg	NS	NS	NS	0.00066	U	0.04	U	0.0003	U		0.00041	U
	Bromoform	mg/kg	0.1	1	300	0.0052	U	0.32	U	0.0024	U		0.0033	U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	0.02	10	0.00066	U	0.04	U	0.0003	U		0.00041	U
	Benzene	mg/kg	2	40	40	0.00066	U	0.04	U	0.0003	U		0.00041	U
	Toluene	mg/kg	30	500	500	0.0013	U	0.081	U	0.0006	U		0.00082	U
	Ethylbenzene	mg/kg	40	500	500	0.0013	U	0.081	U	0.0006	U		0.00082	U
	Chloromethane	mg/kg	NS	NS	NS	0.0052	U	0.32	U	0.0024	U		0.0033	U
	Bromomethane	mg/kg	0.5	0.5	30	0.0026	U	0.16	U	0.0012	U		0.0016	U
	Vinyl chloride	mg/kg	0.9	0.7	1	0.0013	U	0.081	U	0.0006	U		0.00082	U
	Chloroethane	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U
	1,1-Dichloroethene	mg/kg	3	40	500	0.0013	U	0.081	U	0.0006	U		0.00082	U
	trans-1,2-Dichloroethene	mg/kg	1	1	500	0.002	U	0.12	U	0.00089	U		0.0012	U
	Trichloroethene	mg/kg	0.3	0.3	30	0.00066	U	0.04	U	0.0003	U		0.00041	U
	1,2-Dichlorobenzene	mg/kg	9	100	300	0.0026	U	0.16	U	0.0012	U		0.0016	U
	1,3-Dichlorobenzene	mg/kg	3	100	100	0.0026	U	0.16	U	0.0012	U		0.0016	U
	1,4-Dichlorobenzene	mg/kg	0.7	1	80	0.0026	U	0.16	U	0.0012	U		0.0016	U
	Methyl tert butyl ether	mg/kg	0.1	100	100	0.0026	U	0.16	U	0.0012	U		0.0016	U
	p/m-Xylene	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U
	o-Xylene	mg/kg	NS	NS	NS	0.0013	U	0.081	U	0.0006	U		0.00082	U
	Xylenes (Total)	mg/kg	400	100	500	0.0013	U	0.081	U	0.0006	U		0.00082	U
	cis-1,2-Dichloroethene	mg/kg	0.3	0.1	100	0.0013	U	0.081	U	0.0006	U		0.00082	U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	0.0013	U	0.081	U	0.0006	U		0.00082	U
	Dibromomethane	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U
	1,2,3-Trichloropropane	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U
	Styrene	mg/kg	3	4	70	0.0013	U	0.081	U	0.0006	U		0.00082	U
	Dichlorodifluoromethane	mg/kg	NS	NS	NS	0.013	U	0.81	U	0.006	U		0.0082	U
	Acetone	mg/kg	6	50	400	**0.48**	**E**	0.81	U	**0.066**			**0.03**	
	Carbon disulfide	mg/kg	NS	NS	NS	0.013	U	0.81	U	0.006	U		0.0082	U
	2-Butanone	mg/kg	4	50	400	0.013	U	0.81	U	0.006	U		0.0082	U
	4-Methyl-2-pentanone	mg/kg	0.4	50	400	0.013	U	0.81	U	0.006	U		0.0082	U
	2-Hexanone	mg/kg	NS	NS	NS	0.013	U	0.81	U	0.006	U		0.0082	U
	Bromochloromethane	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U
	Tetrahydrofuran	mg/kg	NS	NS	NS	0.0052	U	0.32	U	0.0024	U		0.0033	U
	2,2-Dichloropropane	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U
	1,2-Dibromoethane	mg/kg	0.1	0.1	1	0.0013	U	0.081	U	0.0006	U		0.00082	U
	1,3-Dichloropropane	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	0.1	80	0.00066	U	0.04	U	0.0003	U		0.00041	U
	Bromobenzene	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U
	n-Butylbenzene	mg/kg	100(1)	100(1)	100(1)	0.0013	U	0.081	U	0.0006	U		0.00082	U
	sec-Butylbenzene	mg/kg	100(1)	100(1)	100(1)	0.0013	U	0.081	U	0.0006	U		0.00082	U
	tert-Butylbenzene	mg/kg	100(1)	100(1)	100(1)	0.0026	U	0.16	U	0.0012	U		0.0016	U
	o-Chlorotoluene	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U
	p-Chlorotoluene	mg/kg	NS	NS	NS	0.0026	U	0.16	U	0.0012	U		0.0016	U

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-413			GLX-TPW-414
						Sample Depth^:	2 ft	2 ft	10 ft	3 ft
						Sample Date:	4/6/2020	4/6/2020	4/6/2020	4/15/2020
Analysis	Analyte	Unit	S-1/GW-1	S-1/GW-2	S-1/GW-3		Low VOC	High VOC		
	1,2-Dibromo-3-chloropropane	mg/kg	NS	NS	NS		0.0039 U	0.24 U	0.0018 U	0.0024 U
	Hexachlorobutadiene	mg/kg	30	30	30		0.0052 U	0.32 U	0.0024 U	0.0033 U
	Isopropylbenzene	mg/kg	100(1)	100(1)	100(1)		0.0013 U	0.081 U	0.0006 U	0.00082 U
	p-Isopropyltoluene	mg/kg	100(1)	100(1)	100(1)		0.0013 U	0.081 U	0.0006 U	0.00082 U
	Naphthalene	mg/kg	4	20	500		0.0052 U	0.32 U	0.0024 U	0.0033 U
	n-Propylbenzene	mg/kg	100(1)	100(1)	100(1)		0.0013 U	0.081 U	0.0006 U	0.00082 U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	1,2,4-Trichlorobenzene	mg/kg	2	6	700		0.0026 U	0.16 U	0.0012 U	0.0016 U
	1,3,5-Trimethylbenzene	mg/kg	100(1)	100(1)	100(1)		0.0026 U	0.16 U	0.0012 U	0.0016 U
	1,2,4-Trimethylbenzene	mg/kg	100(1)	100(1)	100(1)		0.0026 U	0.16 U	0.0012 U	0.0016 U
	Ethyl ether	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	Isopropyl Ether	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS		0.0026 U	0.16 U	0.0012 U	0.0016 U
	1,4-Dioxane	mg/kg	0.2	6	20		0.1 U	6.4 U	0.048 U	0.065 U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

E - Value exceeds calibration range.

N/A - Not applicable.

NS - No MassDEP standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed standards/criteria.

VOCs - Volatile Organic Compounds.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-413					
						Lab Sample ID:	L2014666-02		L2016435-01/ L2014666-01/ L2014666-02		L2016435-02/ L2014666-03/ L2014666-04	
						Sample Depth^:	2 ft		0-5/2 ft		5-10/10 ft	
						Sample Date:	4/6/2020		4/6/2020		4/6/2020	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*		Low VOC		High VOC			
SVOCs												
	Acenaphthene	mg/kg	4	NS	NS		NA		0.16	U	0.15	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		NA		0.2	U	0.19	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		NA		0.2	U	0.19	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		NA		0.2	U	0.19	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		NA		0.2	U	0.19	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		NA		0.2	U	0.19	U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		NA		0.2	U	0.19	U
	Azobenzene	mg/kg	NS	NS	NS		NA		0.2	U	0.19	U
	Fluoranthene	mg/kg	1,000	NS	NS		NA		**0.28**		0.11	U
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		NA		0.2	U	0.19	U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		NA		0.21	U	0.2	U
	Hexachlorobutadiene	mg/kg	30	NS	NS		NA		0.2	U	0.19	U
	Hexachloroethane	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Isophorone	mg/kg	100	NS	NS		NA		0.18	U	0.17	U
	Naphthalene	mg/kg	4	NS	NS		NA		0.2	U	0.19	U
	Nitrobenzene	mg/kg	500	NS	NS		NA		0.18	U	0.17	U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		NA		0.2	U	0.19	U
	Butyl benzyl phthalate	mg/kg	100	NS	NS		NA		0.2	U	0.19	U
	Di-n-butylphthalate	mg/kg	50	NS	NS		NA		0.2	U	0.19	U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		NA		0.2	U	0.19	U
	Diethyl phthalate	mg/kg	10	NS	NS		NA		0.2	U	0.19	U
	Dimethyl phthalate	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Benzo(a)anthracene	mg/kg	7	NS	NS		NA		**0.14**		0.11	U
	Benzo(a)pyrene	mg/kg	2	NS	NS		NA		**0.16**		0.15	U
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		NA		**0.19**		0.11	U
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		NA		0.12	U	0.11	U
	Chrysene	mg/kg	70	NS	NS		NA		**0.15**		0.11	U
	Acenaphthylene	mg/kg	1	NS	NS		NA		0.16	U	0.15	U
	Anthracene	mg/kg	1,000	NS	NS		NA		0.12	U	0.11	U
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		NA		0.16	U	0.15	U
	Fluorene	mg/kg	1,000	NS	NS		NA		0.2	U	0.19	U
	Phenanthrene	mg/kg	10	NS	NS		NA		**0.16**		0.11	U
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		NA		0.16	U	0.15	U
	Pyrene	mg/kg	1,000	NS	NS		NA		**0.26**		0.11	U
	Aniline	mg/kg	1,000	NS	NS		NA		0.24	U	0.22	U
	4-Chloroaniline	mg/kg	1	NS	NS		NA		0.2	U	0.19	U
	Dibenzofuran	mg/kg	100	NS	NS		NA		0.2	U	0.19	U
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	Acetophenone	mg/kg	1,000	NS	NS		NA		0.2	U	0.19	U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2-Chlorophenol	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		NA		0.083	U	0.079	U
	2-Nitrophenol	mg/kg	100	NS	NS		NA		0.43	U	0.4	U
	4-Nitrophenol	mg/kg	100	NS	NS		NA		0.28	U	0.26	U
	2,4-Dinitrophenol	mg/kg	3	NS	NS		NA		0.95	U	0.9	U
	Pentachlorophenol	mg/kg	3	NS	NS		NA		0.4	U	0.38	U
	Phenol	mg/kg	1	NS	NS		NA		0.2	U	0.19	U
	2-Methylphenol	mg/kg	500	NS	NS		NA		0.2	U	0.19	U
	3-Methylphenol/4-Methylphenol	mg/kg	500	NS	NS		NA		0.28	U	0.27	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS		NA		0.2	U	0.19	U

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:		GLX-TPW-413			
						Lab Sample ID:		L2016435-01/ L2014666-01/ L2014666-02		L2016435-02/ L2014666-03/ L2014666-04	
						Sample Depth^:		2 ft		0-5/2 ft		5-10/10 ft	
						Sample Date:		4/6/2020		4/6/2020		4/6/2020	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*			Low VOC		High VOC			
	Pyridine	mg/kg	500	NS	NS	NA		0.21	U	0.2	U		
	Total SVOCs	mg/kg	N/A	100	100	*NA*		***1.34***		*ND*			
Pesticides													
	Delta-BHC	mg/kg	10	NS	NS	NA		0.00190	U	0.00171	U		
	Lindane	mg/kg	0.003	NS	NS	NA		0.000634	U	0.000569	U		
	Alpha-BHC	mg/kg	50	NS	NS	NA		0.000792	U	0.000711	U		
	Beta-BHC	mg/kg	10	NS	NS	NA		0.00190	U	0.00171	U		
	Heptachlor	mg/kg	0.3	NS	NS	NA		0.000951	U	0.000853	U		
	Aldrin	mg/kg	0.08	NS	NS	NA		0.00190	U	0.00171	U		
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		0.00356	U	0.00320	U		
	Endrin	mg/kg	10	NS	NS	NA		0.000792	U	0.000711	U		
	Endrin ketone	mg/kg	NS	NS	NS	NA		0.00190	U	0.00171	U		
	Dieldrin	mg/kg	0.08	NS	NS	NA		0.00119	U	0.00107	U		
	4,4'-DDE	mg/kg	6	NS	NS	NA		0.00190	U	0.00171	U		
	4,4'-DDD	mg/kg	8	NS	NS	NA		0.00190	U	0.00171	U		
	4,4'-DDT	mg/kg	6	NS	NS	NA		**0.0137**		0.00320	U		
	Endosulfan I	mg/kg	0.5	NS	NS	NA		0.00190	U	0.00171	U		
	Endosulfan II	mg/kg	0.5	NS	NS	NA		0.00190	U	0.00171	U		
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		0.000792	U	0.000711	U		
	Methoxychlor	mg/kg	200	NS	NS	NA		0.00356	U	0.00320	U		
	Chlordane	mg/kg	0.7	NS	NS	NA		0.0158	U	0.0142	U		
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		0.00190	U	0.00171	U		
Herbicides													
	MCPP	mg/kg	NS	NS	NS	NA		4	U	3.7	U		
	MCPA	mg/kg	100	NS	NS	NA		4	U	3.7	U		
	Dalapon	mg/kg	1,000	NS	NS	NA		0.04	U	0.037	U		
	Dicamba	mg/kg	500	NS	NS	NA		0.04	U	0.037	U		
	Dichloroprop	mg/kg	NS	NS	NS	NA		0.04	U	0.037	U		
	2,4-D	mg/kg	100	NS	NS	NA		0.04	U	0.037	U		
	2,4-DB	mg/kg	100	NS	NS	NA		0.04	U	0.037	U		
	2,4,5-T	mg/kg	100	NS	NS	NA		0.04	U	0.037	U		
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		0.04	U	0.037	U		
PCB Aroclors													
	Aroclor-1016	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U		
	Aroclor-1221	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U		
	Aroclor-1232	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U		
	Aroclor-1242	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U		
	Aroclor-1248	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U		
	Aroclor-1254	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U		
	Aroclor-1260	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U		
	Aroclor-1262	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U		
	Aroclor-1268	mg/kg	1	NS	NS	NA		0.0396	U	0.0364	U		
	PCBs, Total	mg/kg	1	2	2	NA		0.0396	U	0.0364	U		
TPH													
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	NA		39.4	U	36.7	U		
Metals, total													
	Arsenic	mg/kg	20	40	40	NA		**8.37**		**5.91**			
	Barium	mg/kg	1,000	NS	NS	NA		**53.8**		**71.5**			
	Cadmium	mg/kg	70	30	80	NA		0.458	U	0.442	U		
	Chromium	mg/kg	100	1,000	1,000	NA		**24.2**		**37.2**			
	Lead	mg/kg	200	1,000	2,000	NA		**54.2**		**7.39**			
	Mercury	mg/kg	20	10	10	NA		**0.118**		0.083	U		
	Selenium	mg/kg	400	NS	NS	NA		2.29	U	2.21	U		
	Silver	mg/kg	100	NS	NS	NA		0.458	U	0.442	U		
General Chemistry													
	Ignitability		NS	N/A	N/A	NA		NI		NI			
	Specific conductance	umhos/cm	NS	4,000	8,000	NA		**47**		**21**			
	pH	su	NS	>2 <12.5	>2 <12.5	NA		**7.6**		**7.9**			

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-413					
						Lab Sample ID:	L2014666-02		L2016435-01/ L2014666-01/ L2014666-02		L2016435-02/ L2014666-03/ L2014666-04	
						Sample Depth^:	2 ft		0-5/2 ft		5-10/10 ft	
						Sample Date:	4/6/2020		4/6/2020		4/6/2020	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*		Low VOC		High VOC			
	Reactive Cyanide	mg/kg	NS	< 250	< 250		NA		10	U	10	U
	Reactive Sulfide	mg/kg	NS	< 500	< 500		NA		10	U	10	U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
mg/L - milligrams per liter.
su - Standard unit.
umhos/cm - Micro-mhos per centimeter.
E - Value exceeds calibration range.
NA - Sample not analyzed for the listed analyte.
N/A - Not available/applicable.
ND - Not detected.
NI - Not ignitable.
NS - No MassDEP standards exist for this analyte.
U - Analyte was not detected at specified quantitation limit.
Values in **bold** indicate the analyte was detected.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
PCBs - Polychlorinated Biphenyls.
RC - Reportable Concentration.
TPH - Total Petroleum Hydrocarbons.
* - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.
^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.
(1) - MassDEP RC for C9-C10 aromatics used.
(2) - MassDEP RC for Dichloropropene used.
(3) - MassDEP RC for Dichloropropane used.
(4) - MassDEP RC for Chlorotoluene used.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					LOCATION	WASH-MH212-DC-COMP		Wash-MH186-DC-Comp	
					SAMPLING DATE	7/17/2020		08/07/2020	
					LAB SAMPLE ID	20G1285-01		20H0388-01	
					SAMPLE TYPE	SOIL		SOIL	
		CasNum	RCS-1-14	RCS-2-14	Units	Results	Qual	Results	Qual
General Chemistry									
	Specific Conductance @ 25 C	SC			umhos/cm	42		16	
	Solids, Total	TSOLIDS			%	96.1		91.5	
	pH (H)	12408-02-5			SU	4	U	7.7	
	Cyanide, Reactive	GIS-250-012			mg/kg	20	U	4	U
	Sulfide, Reactive	RSULF			mg/kg	8.9		20	U
Ignitability of Solids									
	Ignitability	IGNIT				Absent		Absent	
MCP Chlorinated Herbicides									
	2,4-D	94-75-7	100	1000	mg/kg	0.026	U	0.027	U
	2,4-DB	94-82-6	100	1000	mg/kg	0.026	U	0.027	U
	2,4,5-TP (Silvex)	93-72-1	100	1000	mg/kg	0.0026	U	0.0027	U
	2,4,5-T	93-76-5	100	1000	mg/kg	0.0026	U	0.0027	U
	Dalapon	75-99-0	1000	10000	mg/kg	0.064	U	0.067	U
	Dicamba	1918-00-9	500	5000	mg/kg	0.0026	U	0.0027	U
	Dichloroprop	120-36-5			mg/kg	0.026	U	0.027	U
	Dinoseb	88-85-7	500	5000	mg/kg	0.013	U	0.013	U
	MCPA	94-74-6	100	1000	mg/kg	2.6	U	2.7	U
	MCPP	93-65-2			mg/kg	2.6	U	2.7	U
MCP Organochlorine Pesticides									
	Aldrin	309-00-2	0.08	0.5	mg/kg	0.052	U	0.054	U
	Alpha-BHC	319-84-6	50	500	mg/kg	0.052	U	0.054	U
	Beta-BHC	319-85-7	10	100	mg/kg	0.052	U	0.054	U
	Delta-BHC	319-86-8	10	100	mg/kg	0.052	U	0.054	U
	Lindane	58-89-9	0.003	0.5	mg/kg	0.021	U	0.021	U
	Chlordane	57-74-9	0.7	30	mg/kg	0.21	U	0.21	U
	4,4'-DDD	72-54-8	8	40	mg/kg	0.042	U	0.043	U
	4,4'-DDE	72-55-9	6	30	mg/kg	0.042	U	0.043	U
	4,4'-DDT	50-29-3	6	30	mg/kg	0.21		0.043	U
	Dieldrin	60-57-1	0.08	0.5	mg/kg	0.042	U	0.043	U
	Endosulfan I	959-98-8	0.5	1	mg/kg	0.052	U	0.054	U
	Endosulfan II	33213-65-9	0.5	1	mg/kg	0.083	U	0.086	U
	Endosulfan sulfate	1031-07-8			mg/kg	0.083	U	0.086	U
	Endrin	72-20-8	10	20	mg/kg	0.083	U	0.086	U
	Endrin ketone	53494-70-5			mg/kg	0.083	U	0.086	U
	Heptachlor	76-44-8	0.3	2	mg/kg	0.052	U	0.054	U
	Heptachlor epoxide	1024-57-3	0.1	0.9	mg/kg	0.052	U	0.054	U
	Hexachlorobenzene	118-74-1	0.7	0.8	mg/kg	0.062	U	0.064	U
	Methoxychlor	72-43-5	200	400	mg/kg	0.52	U	0.54	U
MCP Polychlorinated Biphenyls									
	Aroclor 1016	12674-11-2	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1221	11104-28-2	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1232	11141-16-5	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1242	53469-21-9	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1248	12672-29-6	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1254	11097-69-1	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1260	11096-82-5	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1262	37324-23-5	1	4	mg/kg	0.081	U	0.087	U
	Aroclor 1268	11100-14-4	1	4	mg/kg	0.081	U	0.087	U
	PCBs, Total	1336-36-3	1	4	mg/kg	0.081	U	0.087	U
MCP Semivolatile Organics									
	Acenaphthene	83-32-9	4	3000	mg/kg	0.18	U	0.18	U
	Acenaphthylene	208-96-8	1	10	mg/kg	0.18	U	0.18	U
	Acetophenone	98-86-2	1000	10000	mg/kg	0.35	U	0.37	U
	Aniline	62-53-3	1000	10000	mg/kg	0.35	U	0.37	U
	Anthracene	120-12-7	1000	3000	mg/kg	0.18	U	0.18	U
	Benzo(a)anthracene	56-55-3	7	40	mg/kg	0.47		0.44	
	Benzo(a)pyrene	50-32-8	2	7	mg/kg	0.45		0.43	
	Benzo(b)fluoranthene	205-99-2	7	40	mg/kg	0.59		0.55	
	Benzo(ghi)perylene	191-24-2	1000	3000	mg/kg	0.26		0.24	
	Benzo(k)fluoranthene	207-08-9	70	400	mg/kg	0.23		0.2	
	Bis(2-chloroethoxy)methane	111-91-1	500	5000	mg/kg	0.35	U	0.37	U
	Bis(2-chloroethyl)ether	111-44-4	0.7	0.7	mg/kg	0.35	U	0.37	U
	Bis(2-chloroisopropyl)ether	39638-32-9	0.7	0.7	mg/kg	0.35	U	0.37	U
	Bis(2-ethylhexyl)phthalate	117-81-7	90	600	mg/kg	0.35	U	0.37	U
	4-Bromophenyl phenyl ether	101-55-3	100	1000	mg/kg	0.35	U	0.37	U
	Butyl benzyl phthalate	85-68-7	100	1000	mg/kg	0.35	U	0.37	U
	4-Chloroaniline	106-47-8	1	3	mg/kg	0.69	U	0.72	U
	2-Chloronaphthalene	91-58-7	1000	10000	mg/kg	0.35	U	0.37	U
	2-Chlorophenol	95-57-8	0.7	100	mg/kg	0.35	U	0.37	U
	Chrysene	218-01-9	70	400	mg/kg	0.48		0.47	
	Dibenzo(a,h)anthracene	53-70-3	0.7	4	mg/kg	0.18	U	0.18	U
	Dibenzofuran	132-64-9	100	1000	mg/kg	0.35	U	0.37	U
	Di-n-butylphthalate	84-74-2	50	500	mg/kg	0.35	U	0.37	U
	1,2-Dichlorobenzene	95-50-1	9	100	mg/kg	0.35	U	0.37	U
	1,3-Dichlorobenzene	541-73-1	3	200	mg/kg	0.35	U	0.37	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	mg/kg	0.35	U	0.37	U
	3,3'-Dichlorobenzidine	91-94-1	3	20	mg/kg	0.18	U	0.18	U
	2,4-Dichlorophenol	120-83-2	0.7	40	mg/kg	0.35	U	0.37	U
	Diethyl phthalate	84-66-2	10	200	mg/kg	0.35	U	0.37	U
	2,4-Dimethylphenol	105-67-9	0.7	100	mg/kg	0.35	U	0.37	U
	Dimethyl phthalate	131-11-3	0.7	50	mg/kg	0.35	U	0.37	U
	2,4-Dinitrophenol	51-28-5	3	50	mg/kg	0.69	U	0.72	U
	2,4-Dinitrotoluene	121-14-2	0.7	10	mg/kg	0.35	U	0.37	U
	2,6-Dinitrotoluene	606-20-2	100	1000	mg/kg	0.35	U	0.37	U
	Di-n-octylphthalate	117-84-0	1000	10000	mg/kg	0.35	U	0.37	U
	Azobenzene	122-66-7	50	500	mg/kg	0.35	U	0.37	U
	Fluoranthene	206-44-0	1000	3000	mg/kg	0.92		0.84	
	Fluorene	86-73-7	1000	3000	mg/kg	0.18	U	0.18	U
	Hexachlorobenzene	118-74-1	0.7	0.8	mg/kg	0.35	U	0.37	U
	Hexachlorobutadiene	87-68-3	30	100	mg/kg	0.35	U	0.37	U
	Hexachloroethane	67-72-1	0.7	3	mg/kg	0.35	U	0.37	U
	Indeno(1,2,3-cd)pyrene	193-39-5	7	40	mg/kg	0.28		0.3	
	Isophorone	78-59-1	100	1000	mg/kg	0.35	U	0.37	U
	2-Methylnaphthalene	91-57-6	0.7	80	mg/kg	0.18	U	0.18	U
	2-Methylphenol	95-48-7	500	5000	mg/kg	0.35	U	0.37	U
	3-Methylphenol/4-Methylphenol	108-39-4/106-44-5	500	5000	mg/kg	0.35	U	0.37	U
	Naphthalene	91-20-3	4	20	mg/kg	0.18	U	0.18	U
	Nitrobenzene	98-95-3	500	5000	mg/kg	0.35	U	0.37	U
	2-Nitrophenol	88-75-5	100	1000	mg/kg	0.35	U	0.37	U
	4-Nitrophenol	100-02-7	100	1000	mg/kg	0.69	U	0.72	U
	Pentachlorophenol	87-86-5	3	10	mg/kg	0.35	U	0.37	U
	Phenanthrene	85-01-8	10	1000	mg/kg	0.62		0.6	
	Phenol	108-95-2	1	20	mg/kg	0.35	U	0.37	U
	Pyrene	129-00-0	1000	3000	mg/kg	0.87		0.92	
	Pyridine	110-86-1	500	5000	mg/kg	0.35	U	0.37	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	mg/kg	0.35	U	0.37	U
	2,4,5-Trichlorophenol	95-95-4	4	600	mg/kg	0.35	U	0.37	U

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					LOCATION	WASH-MH212-DC-COMP		Wash-MH186-DC-Comp	
					SAMPLING DATE	7/17/2020		08/07/2020	
					LAB SAMPLE ID	20G1285-01		20H0388-01	
					SAMPLE TYPE	SOIL		SOIL	
		CasNum	RCS-1-14	RCS-2-14	Units	Results	Qual	Results	Qual
	2,4,6-Trichlorophenol	88-06-2	0.7	20	mg/kg	0.35	U	0.37	U
	Total SVOCs				mg/kg	5.17		4.99	
MCP Total Metals									
	Antimony, Total	7440-36-0	20	30	mg/kg	1.7	U	1.8	U
	Arsenic, Total	7440-38-2	20	20	mg/kg	6.2		9.8	
	Barium, Total	7440-39-3	1000	3000	mg/kg	44		64	
	Beryllium, Total	7440-41-7	90	200	mg/kg	0.40		0.47	
	Cadmium, Total	7440-43-9	70	100	mg/kg	0.34	U	0.35	U
	Chromium, Total	7440-47-3	100	200	mg/kg	24		22	
	Lead, Total	7439-92-1	200	600	mg/kg	66		170	
	Mercury, Total	7439-97-6	20	30	mg/kg	0.22		0.14	
	Nickel, Total	7440-02-0	600	1000	mg/kg	22		21	
	Selenium, Total	7782-49-2	400	700	mg/kg	3.4	U	3.5	U
	Silver, Total	7440-22-4	100	200	mg/kg	0.34	U	0.35	U
	Thallium, Total	7440-28-0	8	60	mg/kg	1.7	U	1.8	U
	Vanadium, Total	7440-62-2	400	700	mg/kg	36		41	
	Zinc, Total	7440-66-6	1000	3000	mg/kg	77		90	

U - Not detected at the reported detection limit for the sample.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					LOCATION	WASH-MH119-DC-COMP		WASH-MH281-DC-COMP	
					SAMPLING DATE	8/18/2020		8/18/2020	
					LAB SAMPLE ID	L2034460-01		L2034460-02	
					SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-LLAND	MA-ULAND	Units	Results	Qual	Results	Qual
General Chemistry									
	Specific Conductance @ 25 C	NONE	8000	4000	umhos/cm	100		190	
	Solids, Total	NONE			%	91		91.4	
	pH (H)	12408-02-5			SU	7.8		8.1	
	Cyanide, Reactive	57-12-5			mg/kg	10	U	10	U
	Sulfide, Reactive	NONE			mg/kg	10	U	10	U
Ignitability of Solids									
	Ignitability	NONE				NI		NI	
MCP Chlorinated Herbicides									
	MCPP	93-65-2			mg/kg	3.6	U	3.6	U
	MCPA	94-74-6			mg/kg	3.6	U	3.6	U
	Dalapon	75-99-0			mg/kg	0.036	U	0.036	U
	Dicamba	1918-00-9			mg/kg	0.036	U	0.036	U
	Dichloroprop	120-36-5			mg/kg	0.036	U	0.036	U
	2,4-D	94-75-7			mg/kg	0.036	U	0.036	U
	2,4-DB	94-82-6			mg/kg	0.036	U	0.036	U
	2,4,5-T	93-76-5			mg/kg	0.036	U	0.036	U
	2,4,5-TP (Silvex)	93-72-1			mg/kg	0.036	U	0.036	U
MCP Organochlorine Pesticides									
	Delta-BHC	319-86-8			mg/kg	0.00174	U	0.00171	U
	Lindane	58-89-9			mg/kg	0.00058	U	0.000569	U
	Alpha-BHC	319-84-6			mg/kg	0.000724	U	0.000711	U
	Beta-BHC	319-85-7			mg/kg	0.00174	U	0.00171	U
	Heptachlor	76-44-8			mg/kg	0.000869	U	0.000854	U
	Aldrin	309-00-2			mg/kg	0.00174	U	0.00171	U
	Heptachlor epoxide	1024-57-3			mg/kg	0.00326	U	0.0032	U
	Endrin	72-20-8			mg/kg	0.000724	U	0.000711	U
	Endrin ketone	53494-70-5			mg/kg	0.00174	U	0.00171	U
	Dieldrin	60-57-1			mg/kg	0.00109	U	0.00107	U
	4,4'-DDE	72-55-9			mg/kg	0.00174	U	0.00171	U
	4,4'-DDD	72-54-8			mg/kg	0.00174	U	0.00171	U
	4,4'-DDT	50-29-3			mg/kg	0.00326	U	0.0032	U
	Endosulfan I	959-98-8			mg/kg	0.00174	U	0.00171	U
	Endosulfan II	33213-65-9			mg/kg	0.00174	U	0.00171	U
	Endosulfan sulfate	1031-07-8			mg/kg	0.000724	U	0.000711	U
	Methoxychlor	72-43-5			mg/kg	0.00326	U	0.0032	U
	Chlordane	57-74-9			mg/kg	0.0145	U	0.0142	U
	Hexachlorobenzene	118-74-1			mg/kg	0.00174	U	0.00171	U
MCP Polychlorinated Biphenyls									
	Aroclor 1016	12674-11-2			mg/kg	0.0357	U	0.0346	U
	Aroclor 1221	11104-28-2			mg/kg	0.0357	U	0.0346	U
	Aroclor 1232	11141-16-5			mg/kg	0.0357	U	0.0346	U
	Aroclor 1242	53469-21-9			mg/kg	0.0357	U	0.0346	U
	Aroclor 1248	12672-29-6			mg/kg	0.0357	U	0.0346	U
	Aroclor 1254	11097-69-1			mg/kg	0.0357	U	0.0346	U
	Aroclor 1260	11096-82-5			mg/kg	0.0357	U	0.0346	U
	Aroclor 1262	37324-23-5			mg/kg	0.0357	U	0.0346	U
	Aroclor 1268	11100-14-4			mg/kg	0.0357	U	0.0346	U
	PCBs, Total	1336-36-3	2	2	mg/kg	0.0357	U	0.0346	U
MCP Semivolatile Organics									
	Acenaphthene	83-32-9			mg/kg	0.14	U	0.14	
	1,2,4-Trichlorobenzene	120-82-1			mg/kg	0.18	U	0.18	U
	Hexachlorobenzene	118-74-1			mg/kg	0.076	U	0.076	U
	Bis(2-chloroethyl)ether	111-44-4			mg/kg	0.076	U	0.076	U
	2-Chloronaphthalene	91-58-7			mg/kg	0.18	U	0.18	U
	1,2-Dichlorobenzene	95-50-1			mg/kg	0.18	U	0.18	U
	1,3-Dichlorobenzene	541-73-1			mg/kg	0.18	U	0.18	U
	1,4-Dichlorobenzene	106-46-7			mg/kg	0.076	U	0.076	U
	3,3'-Dichlorobenzidine	91-94-1			mg/kg	0.18	U	0.18	U
	2,4-Dinitrotoluene	121-14-2			mg/kg	0.076	U	0.076	U
	2,6-Dinitrotoluene	606-20-2			mg/kg	0.18	U	0.18	U
	Azobenzene	103-33-3			mg/kg	0.18	U	0.18	U
	Fluoranthene	206-44-0			mg/kg	0.27		1.6	
	4-Bromophenyl phenyl ether	101-55-3			mg/kg	0.18	U	0.18	U
	Bis(2-chloroisopropyl)ether	108-60-1			mg/kg	0.076	U	0.076	U
	Bis(2-chloroethoxy)methane	111-91-1			mg/kg	0.2	U	0.2	U
	Hexachlorobutadiene	87-68-3			mg/kg	0.18	U	0.18	U
	Hexachloroethane	67-72-1			mg/kg	0.076	U	0.076	U
	Isophorone	78-59-1			mg/kg	0.16	U	0.16	U
	Naphthalene	91-20-3			mg/kg	0.18	U	0.57	
	Nitrobenzene	98-95-3			mg/kg	0.16	U	0.16	U
	Bis(2-ethylhexyl)phthalate	117-81-7			mg/kg	0.18	U	0.18	U
	Butyl benzyl phthalate	85-68-7			mg/kg	0.18	U	0.18	U
	Di-n-butylphthalate	84-74-2			mg/kg	0.18	U	0.18	U
	Di-n-octylphthalate	117-84-0			mg/kg	0.18	U	0.18	U
	Diethyl phthalate	84-66-2			mg/kg	0.18	U	0.18	U
	Dimethyl phthalate	131-11-3			mg/kg	0.076	U	0.076	U
	Benzo(a)anthracene	56-55-3			mg/kg	0.2		1.3	
	Benzo(a)pyrene	50-32-8			mg/kg	0.17		1.2	
	Benzo(b)fluoranthene	205-99-2			mg/kg	0.26		1.6	
	Benzo(k)fluoranthene	207-08-9			mg/kg	0.11	U	0.36	
	Chrysene	218-01-9			mg/kg	0.16		1.1	
	Acenaphthylene	208-96-8			mg/kg	0.14	U	0.31	
	Anthracene	120-12-7			mg/kg	0.11	U	0.38	
	Benzo(ghi)perylene	191-24-2			mg/kg	0.14	U	0.83	
	Fluorene	86-73-7			mg/kg	0.18	U	0.21	
	Phenanthrene	85-01-8			mg/kg	0.14		1	
	Dibenzo(a,h)anthracene	53-70-3			mg/kg	0.076	U	0.19	
	Indeno(1,2,3-cd)pyrene	193-39-5			mg/kg	0.14	U	0.92	
	Pyrene	129-00-0			mg/kg	0.26		1.8	
	Aniline	62-53-3			mg/kg	0.22	U	0.22	U
	4-Chloroaniline	106-47-8			mg/kg	0.18	U	0.18	U
	Dibenzofuran	132-64-9			mg/kg	0.18	U	0.18	U
	2-Methylnaphthalene	91-57-6			mg/kg	0.076	U	0.29	
	Acetophenone	98-86-2			mg/kg	0.18	U	0.18	U
	2,4,6-Trichlorophenol	88-06-2			mg/kg	0.076	U	0.076	U
	2-Chlorophenol	95-57-8			mg/kg	0.076	U	0.076	U
	2,4-Dichlorophenol	120-83-2			mg/kg	0.076	U	0.076	U
	2,4-Dimethylphenol	105-67-9			mg/kg	0.076	U	0.076	U
	2-Nitrophenol	88-75-5			mg/kg	0.39	U	0.39	U
	4-Nitrophenol	100-02-7			mg/kg	0.25	U	0.25	U
	2,4-Dinitrophenol	51-28-5			mg/kg	0.87	U	0.87	U
	Pentachlorophenol	87-86-5			mg/kg	0.36	U	0.36	U
	Phenol	108-95-2			mg/kg	0.18	U	0.18	U
	2-Methylphenol	95-48-7			mg/kg	0.18	U	0.18	U
	3-Methylphenol/4-Methylphenol	108-39-4/106-44-5			mg/kg	0.26	U	0.26	U
	2,4,5-Trichlorophenol	95-95-4			mg/kg	0.18	U	0.18	U
	Pyridine	110-86-1			mg/kg	0.2	U	0.2	U
	Total SVOCs		100	100	mg/kg	1.46		13.8	
MCP Total Metals									
	Antimony, Total	7440-36-0			mg/kg	2.16	U	2.15	U
	Arsenic, Total	7440-38-2	40	40	mg/kg	7.55		5.48	
	Barium, Total	7440-39-3			mg/kg	38.6		41.4	
	Beryllium, Total	7440-41-7			mg/kg	0.216	U	0.215	U
	Cadmium, Total	7440-43-9	80	30	mg/kg	0.565		0.593	
	Chromium, Total	7440-47-3	1000	1000	mg/kg	14.3		17	

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					LOCATIO	WASH-MH119-DC-COMP		WASH-MH281-DC-COMP	
					SAMPLING DATE	8/18/2020		8/18/2020	
					LAB SAMPLE ID	L2034460-01		L2034460-02	
					SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-LLAND	MA-ULAND	Units	Results	Qual	Results	Qual
	Lead, Total	7439-92-1	2000	1000	mg/kg	53.1		96.8	
	Mercury, Total	7439-97-6	10	10	mg/kg	0.342		0.165	
	Nickel, Total	7440-02-0			mg/kg	11.5		13.7	
	Selenium, Total	7782-49-2			mg/kg	2.16	U	2.15	U
	Silver, Total	7440-22-4			mg/kg	0.431	U	0.43	U
	Thallium, Total	7440-28-0			mg/kg	2.16	U	2.15	U
	Vanadium, Total	7440-62-2			mg/kg	22.5		20.4	
	Zinc, Total	7440-66-6			mg/kg	52.7		90.6	

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						LOCATION	WASH-MH212(A)-DC-VOC-1		WASH-MH212(B)-DC-VOC-1		WASH-MH212(C)-DC-VOC-1		WASH-MH212(D)-DC-VOC-1	
						SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		7/17/2020	
						LAB SAMPLE ID	20G1126-01		20G1126-02		20G1126-03		20G1126-04	
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by EPA 5035														
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0048		0.0036		0.0046		0.0046	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	-	-	-	-	-	-	-	-
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	Benzene	71-43-2	2	40	40	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Toluene	108-88-3	30	500	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Chloromethane	74-87-3				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Chloroethane	75-00-3				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	-	-	-	-	-	-	-	-
	Dibromomethane	74-95-3				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Styrene	100-42-5	3	4	70	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Acetone	67-64-1	6	50	400	mg/kg	0.21		0.088	U	0.31		0.20	
	Carbon disulfide	75-15-0				mg/kg	0.0049	U	0.0053	U	0.0046	U	0.0053	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.033	U	0.035	U	0.031	U	0.035	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.016	U	0.018	U	0.015	U	0.018	U
	2-Hexanone	591-78-6				mg/kg	0.016	U	0.018	U	0.015	U	0.018	U
	Bromochloromethane	74-97-5				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Bromobenzene	108-86-1				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U

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Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

							LOCATION	WASH-MH212(A)-DC-VOC-1		WASH-MH212(B)-DC-VOC-1		WASH-MH212(C)-DC-VOC-1		WASH-MH212(D)-DC-VOC-1	
							SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		7/17/2020	
							LAB SAMPLE ID	20G1126-01		20G1126-02		20G1126-03		20G1126-04	
							SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual
	o-Chlorotoluene	95-49-8				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Diethyl ether	60-29-7				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Diisopropyl Ether	108-20-3				mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.082	U	0.088	U	0.077	U	0.088	U

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						LOCATION	WASH-MH212(E)-DC-VOC-1		WASH-MH212(F)-DC-VOC-1		WASH-MH212(G)-DC-VOC-1		Wash-MH186(A)-DC-VOC		Wash-MH186(B)-DC-VOC
						SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		8/7/2020		8/7/2020
						LAB SAMPLE ID	20G1126-05		20G1126-06		20G1126-07		20H0387-01		20H0387-02
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results
MCP Volatile Organics by EPA 5035															
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0043		0.0051		0.0022	U	0.0094		0.0087
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Trichlorofluoromethane	75-69-4				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	-	-	-	-	-	-	-	-	-
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	Benzene	71-43-2	2	40	40	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Toluene	108-88-3	30	500	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Chloromethane	74-87-3				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Chloroethane	75-00-3				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0021		0.0021
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0044		0.0021
	1,2-Dichloroethene, Total	540-59-0				mg/kg	-	-	-	-	-	-	-	-	-
	Dibromomethane	74-95-3				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Styrene	100-42-5	3	4	70	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Dichlorodifluoromethane	75-71-8				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Acetone	67-64-1	6	50	400	mg/kg	0.19		0.085	U	0.16		0.083	U	0.1
	Carbon disulfide	75-15-0				mg/kg	0.0042	U	0.0051	U	0.0066	U	0.005	U	0.0062
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.028	U	0.034	U	0.044	U	0.033	U	0.041
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.014	U	0.017	U	0.022	U	0.017	U	0.021
	2-Hexanone	591-78-6				mg/kg	0.014	U	0.017	U	0.022	U	0.017	U	0.021
	Bromochloromethane	74-97-5				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Tetrahydrofuran	109-99-9				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,3-Dichloropropane	142-28-9				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Bromobenzene	108-86-1				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021

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Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						LOCATION	WASH-MH212(E)-DC-VOC-1		WASH-MH212(F)-DC-VOC-1		WASH-MH212(G)-DC-VOC-1		Wash-MH186(A)-DC-VOC		Wash-MH186(B)-DC-VOC
						SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		8/7/2020		8/7/2020
						LAB SAMPLE ID	20G1126-05		20G1126-06		20G1126-07		20H0387-01		20H0387-02
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results
	o-Chlorotoluene	95-49-8				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	p-Chlorotoluene	106-43-4				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Diethyl ether	60-29-7				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Diisopropyl Ether	108-20-3				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.07	U	0.085	U	0.11	U	0.083	U	0.1

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					LOCATION		Wash-MH186(C)-DC-VOC		WASH-MH119A-DC-VOC		WASH-MH119B-DC-VOC		WASH-MH119C-DC-VOC		WASH-MH281A-DC-VOC	
					SAMPLING DATE		8/7/2020		8/18/2020		8/18/2020		8/18/2020		8/18/2020	
					LAB SAMPLE ID		20H0387-03		L2033621-02		L2033621-03		L2033621-04		L2033621-06	
					SAMPLE TYPE		SOIL		SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by EPA 5035																
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.011	U	0.0038	U	0.005	U	0.0042	U	0.0041	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0046	U	0.0011	U	0.0015	U	0.0012	U	0.0012	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.0011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.010		0.0038		0.0066		0.003		0.0018	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.011	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.0011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.0011	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	-	-	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0023	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.0011	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Benzene	71-43-2	2	40	40	mg/kg	0.0023	U	0.0007		0.0005	U	0.00045		0.00048	
	Toluene	108-88-3	30	500	500	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Chloromethane	74-87-3				mg/kg	0.011	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Chloroethane	75-00-3				mg/kg	0.011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0046	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0023	U	0.0011	U	0.0015	U	0.0012	U	0.0012	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0023	U	0.00062		0.00078		0.00042	U	0.00041	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0046	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0046	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.0046	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0023	U	0.00077		0.001	U	0.00083	U	0.00083	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	-	-	0.00077		0.001	U	0.00083	U	0.00083	U
	Dibromomethane	74-95-3				mg/kg	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Styrene	100-42-5	3	4	70	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.011	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Acetone	67-64-1	6	50	400	mg/kg	0.11	U	0.028		0.025	U	0.026		0.028	
	Carbon disulfide	75-15-0				mg/kg	0.0069	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.046	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.023	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	2-Hexanone	591-78-6				mg/kg	0.023	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Bromochloromethane	74-97-5				mg/kg	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Tetrahydrofuran	109-99-9				mg/kg	0.011	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.0011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Bromobenzene	108-86-1				mg/kg	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U

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Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
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								Wash-MH186(C)-DC-VOC		WASH-MH119A-DC-VOC		WASH-MH119B-DC-VOC		WASH-MH119C-DC-VOC		WASH-MH281A-DC-VOC	
						LOCATION												
						SAMPLING DATE		8/7/2020		8/18/2020		8/18/2020		8/18/2020		8/18/2020	
						LAB SAMPLE ID		20H0387-03		L2033621-02		L2033621-03		L2033621-04		L2033621-06	
						SAMPLE TYPE		SOIL		SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
	o-Chlorotoluene	95-49-8				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	p-Chlorotoluene	106-43-4				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	U	0.0023	U	0.0023	U	0.003	U	0.0025	U	0.0025	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	U	0.0023	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Naphthalene	91-20-3	4	20	500	mg/kg	U	0.0046	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Diethyl ether	60-29-7				mg/kg	U	0.011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Diisopropyl Ether	108-20-3				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	U	0.11	U	0.061	U	0.08	U	0.067	U	0.066	U

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						LOCATION	WASH-MH281B-DC-VOC		WASH-MH281C-DC-VOC		WASH-MH281D-DC-VOC	
						SAMPLING DATE	8/18/2020		8/18/2020		8/18/2020	
						LAB SAMPLE ID	L2033621-07		L2033621-08		L2033621-09	
						SAMPLE TYPE	SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by EPA 5035												
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0044	U	0.0038	U	0.0041	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0013	U	0.0012	U	0.0012	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0013		0.0013		0.0014	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0036	U	0.0031	U	0.0033	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00044	U	0.00038	U	0.00041	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00044	U	0.00038	U	0.00041	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00044	U	0.00038	U	0.00041	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0036	U	0.0031	U	0.0033	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00066		0.00068		0.00054	
	Toluene	108-88-3	30	500	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Chloromethane	74-87-3				mg/kg	0.0036	U	0.0031	U	0.0033	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0018	U	0.0015	U	0.0016	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Chloroethane	75-00-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0013	U	0.0012	U	0.0012	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00044	U	0.00038	U	0.00046	
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0018	U	0.0015	U	0.0016	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0018	U	0.0015	U	0.0016	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0018	U	0.0015	U	0.0016	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.00089	U	0.00077	U	0.00083	U
	Dibromomethane	74-95-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Styrene	100-42-5	3	4	70	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0089	U	0.0077	U	0.0083	U
	Acetone	67-64-1	6	50	400	mg/kg	0.037		0.032		0.036	
	Carbon disulfide	75-15-0				mg/kg	0.0089	U	0.0077	U	0.0083	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.0089	U	0.0077	U	0.0083	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.0089	U	0.0077	U	0.0083	U
	2-Hexanone	591-78-6				mg/kg	0.0089	U	0.0077	U	0.0083	U
	Bromochloromethane	74-97-5				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0036	U	0.0031	U	0.0033	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Bromobenzene	108-86-1				mg/kg	0.0018	U	0.0015	U	0.0016	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0018	U	0.0015	U	0.0016	U

Table 2 - Summary of Analytical Results for Soil Samples -- 2019 and 2020
Green Line Extension Project - Washington Street
Somerville, Massachusetts

							LOCATION	WASH-MH281B-DC-VOC		WASH-MH281C-DC-VOC		WASH-MH281D-DC-VOC	
							SAMPLING DATE	8/18/2020		8/18/2020		8/18/2020	
							LAB SAMPLE ID	L2033621-07		L2033621-08		L2033621-09	
							SAMPLE TYPE	SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual
	o-Chlorotoluene	95-49-8				mg/kg	0.0018	U	0.0015	U	0.0016	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0027	U	0.0023	U	0.0025	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0036	U	0.0031	U	0.0033	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0036	U	0.0031	U	0.0033	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0018	U	0.0015	U	0.0016	U
	Diethyl ether	60-29-7				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.071	U	0.062	U	0.066	U

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:		GLC-WASH(A)		GLC-WASH(B)		GLX-TPW-401		GLX-TPW-401A		GLX-TPW-402		GLX-TPW-402A		GLX-TPW-403		GLX-TPW-403A		GLX-TPW-404		GLX-TPW-405		GLX-TPW-406				GLX-TPW-407		GLX-TPW-408	
						Sample Depth^:		N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft	
						Sample Date:		02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																							Low VOC		High VOC					
VOCs																																			
	Methylene chloride	mg/kg	0.1	NS	NS	NA		NA		0.33	U	NA		0.3	U	NA		0.0089	U	NA		0.0036	U	0.0037	U	0.0040	U	0.22	U	0.0030	U	0.0045	U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Chloroform	mg/kg	0.2	NS	NS	NA		NA		0.098	U	NA		0.09	U	NA		0.0027	U	NA		0.0011	U	0.0011	U	0.0012	U	0.066	U	0.00091	U	0.0014	U
	Carbon tetrachloride	mg/kg	5	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Dibromochloromethane	mg/kg	0.005	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Tetrachloroethene	mg/kg	1	NS	NS	NA		NA		**0.041**		NA		**2**		NA		0.00089	U	NA		**0.012**		**0.0011**		**0.013**		**0.14**		**0.0096**		**0.14**	
	Chlorobenzene	mg/kg	1	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	**0.0018**	
	Bromodichloromethane	mg/kg	0.1	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	Bromoform	mg/kg	0.1	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	Benzene	mg/kg	2	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	**0.021**	
	Toluene	mg/kg	30	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	**0.0011**		0.044	U	0.00060	U	0.00090	U
	Ethylbenzene	mg/kg	40	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Chloromethane	mg/kg	100	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	Bromomethane	mg/kg	0.5	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Vinyl chloride	mg/kg	0.7	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		**0.0023**		NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Chloroethane	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,1-Dichloroethene	mg/kg	3	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	NA		NA		0.098	U	NA		0.09	U	NA		0.0027	U	NA		0.0011	U	0.0011	U	0.0012	U	0.066	U	0.00091	U	0.0014	U
	Trichloroethene	mg/kg	0.3	NS	NS	NA		NA		0.033	U	NA		**0.032**		NA		0.00089	U	NA		**0.00050**		0.00037	U	**0.0011**		0.022	U	**0.00083**		**0.014**	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	p/m-Xylene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	o-Xylene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Xylenes (Total)	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		**0.0037**		NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	**0.013**	
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		**0.0037**		NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	**0.013**	
	Dibromomethane	mg/kg	500	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Styrene	mg/kg	3	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	Acetone	mg/kg	6	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.044	U	NA		0.018	U	0.018	U	**0.31**	**E**	0.44	U	**0.051**		0.022	U
	Carbon disulfide	mg/kg	100	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	2-Butanone	mg/kg	4	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	2-Hexanone	mg/kg	100	NS	NS	NA		NA		0.65	U	NA		0.6	U	NA		0.018	U	NA		0.0071	U	0.0073	U	0.0080	U	0.44	U	0.0060	U	0.0090	U
	Bromochloromethane	mg/kg	NS	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Tetrahydrofuran	mg/kg	500	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,3-Dichloropropane	mg/kg	500	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	NA		NA		0.033	U	NA		0.03	U	NA		0.00089	U	NA		0.00036	U	0.00037	U	0.00040	U	0.022	U	0.00030	U	0.00045	U
	Bromobenzene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	n-Butylbenzene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	sec-Butylbenzene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	tert-Butylbenzene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	o-Chlorotoluene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	p-Chlorotoluene	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	NA		NA		0.2	U	NA		0.18	U	NA		0.0053	U	NA		0.0021	U	0.0022	U	0.0024	U	0.13	U	0.0018	U	0.0027	U
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	Isopropylbenzene	mg/kg	1,000	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	p-Isopropyltoluene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLC-WASH(A)		GLC-WASH(B)		GLX-TPW-401		GLX-TPW-401A		GLX-TPW-402		GLX-TPW-402A		GLX-TPW-403		GLX-TPW-403A		GLX-TPW-404		GLX-TPW-405		GLX-TPW-406			GLX-TPW-407		GLX-TPW-408	
						Sample Depth^:	N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft	
						Sample Date:	02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																						Low VOC		High VOC					
	Naphthalene	mg/kg	4	NS	NS	NA		NA		0.26	U	NA		0.24	U	NA		0.0071	U	NA		0.0028	U	0.0029	U	0.0032	U	0.18	U	0.0024	U	0.0036	U
	n-Propylbenzene	mg/kg	100	NS	NS	NA		NA		0.065	U	NA		0.06	U	NA		0.0018	U	NA		0.00071	U	0.00073	U	0.00080	U	0.044	U	0.00060	U	0.00090	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Ethyl ether	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Isopropyl Ether	mg/kg	100	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	NA		NA		0.13	U	NA		0.12	U	NA		0.0036	U	NA		0.0014	U	0.0015	U	0.0016	U	0.088	U	0.0012	U	0.0018	U
	1,4-Dioxane	mg/kg	0.2	NS	NS	NA		NA		5.2	U	NA		4.8	U	NA		0.14	U	NA		0.057	U	0.059	U	0.064	U	3.5	U	0.048	U	0.072	U
	Total VOCs	mg/kg	N/A	4	10	*NA*		*NA*		***0.041***		*NA*		***2.03***		*NA*		***0.006***		*NA*		***0.013***		***0.001***		***0.325***		***0.140***		***0.061***		***0.190***	
SVOCs																																
	Acenaphthene	mg/kg	4	NS	NS	1.4	U	**2**		NA		0.14	U	NA		0.15	U	NA		0.15	U	0.15	U	0.14	U	0.14	U	NA		0.14	U	**0.37**	
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Azobenzene	mg/kg	NS	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Fluoranthene	mg/kg	1,000	NS	NS	**16**		**17**		NA		**0.12**		NA		**0.21**		NA		0.12	U	**0.55**		0.11	U	0.11	U	NA		0.1	U	**8.8**	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS	1.9	U	2	U	NA		0.2	U	NA		0.2	U	NA		0.21	U	0.2	U	0.19	U	0.19	U	NA		0.18	U	0.2	U
	Hexachlorobutadiene	mg/kg	30	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Hexachloroethane	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	Isophorone	mg/kg	100	NS	NS	1.6	U	1.6	U	NA		0.16	U	NA		0.16	U	NA		0.17	U	0.16	U	0.16	U	0.16	U	NA		0.15	U	0.17	U
	Naphthalene	mg/kg	4	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		**0.2**		0.18	U	0.18	U	0.18	U	NA		0.17	U	**0.68**	
	Nitrobenzene	mg/kg	500	NS	NS	1.6	U	1.6	U	NA		0.16	U	NA		0.16	U	NA		0.17	U	0.16	U	0.16	U	0.16	U	NA		0.15	U	0.17	U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Butyl benzyl phthalate	mg/kg	100	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Di-n-butylphthalate	mg/kg	50	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Diethyl phthalate	mg/kg	10	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Dimethyl phthalate	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	Benzo(a)anthracene	mg/kg	7	NS	NS	**7**		**7.2**		NA		0.11	U	NA		**0.13**		NA		0.12	U	**0.36**		0.11	U	0.11	U	NA		0.1	U	**5.9**	
	Benzo(a)pyrene	mg/kg	2	NS	NS	**6.3**		**5.8**		NA		0.14	U	NA		0.15	U	NA		0.15	U	**0.45**		0.14	U	0.14	U	NA		0.14	U	**6.2**	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS	**8.7**		**8.3**		NA		**0.11**		NA		**0.15**		NA		0.12	U	**0.6**		0.11	U	0.11	U	NA		0.1	U	**7.3**	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS	**2.8**		**2.5**		NA		0.11	U	NA		0.11	U	NA		0.12	U	**0.18**		0.11	U	0.11	U	NA		0.1	U	**2.3**	
	Chrysene	mg/kg	70	NS	NS	**6.6**		**7.1**		NA		0.11	U	NA		**0.11**		NA		0.12	U	**0.4**		0.11	U	0.11	U	NA		0.1	U	**5.2**	
	Acenaphthylene	mg/kg	1	NS	NS	1.4	U	1.4	U	NA		0.14	U	NA		0.15	U	NA		0.15	U	**0.21**		0.14	U	0.14	U	NA		0.14	U	**0.88**	
	Anthracene	mg/kg	1,000	NS	NS	**3.5**		**4.2**		NA		0.11	U	NA		0.11	U	NA		0.12	U	**0.19**		0.11	U	0.11	U	NA		0.1	U	**1.9**	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS	**4**		**3.1**		NA		0.14	U	NA		0.15	U	NA		0.15	U	**0.46**		0.14	U	0.14	U	NA		0.14	U	**3.4**	
	Fluorene	mg/kg	1,000	NS	NS	1.8	U	**2.2**		NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	**0.62**	
	Phenanthrene	mg/kg	10	NS	NS	**11**		**20**		NA		0.11	U	NA		0.11	U	NA		0.12	U	**0.3**		0.11	U	0.11	U	NA		0.1	U	**5.8**	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS	**0.85**		**0.78**		NA		0.076	U	NA		0.077	U	NA		0.081	U	**0.094**		0.075	U	0.075	U	NA		0.072	U	**0.84**	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS	**4.2**		**3.4**		NA		0.14	U	NA		0.15	U	NA		0.15	U	**0.38**		0.14	U	0.14	U	NA		0.14	U	**3.8**	
	Pyrene	mg/kg	1,000	NS	NS	**13**		**15**		NA		**0.12**		NA		**0.2**		NA		**0.12**		**0.56**		0.11	U	0.11	U	NA		0.1	U	**7.6**	
	Aniline	mg/kg	1,000	NS	NS	2.2	U	2.2	U	NA		0.22	U	NA		0.22	U	NA		0.23	U	0.22	U	0.22	U	0.21	U	NA		0.2	U	0.23	U
	4-Chloroaniline	mg/kg	1	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Dibenzofuran	mg/kg	100	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	**0.48**	
	2-Methylnaphthalene	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	**0.16**		0.075	U	0.075	U	NA		0.072	U	**0.23**	
	Acetophenone	mg/kg	1,000	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2-Chlorophenol	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS	0.75	U	0.76	U	NA		0.076	U	NA		0.077	U	NA		0.081	U	0.077	U	0.075	U	0.075	U	NA		0.072	U	0.079	U
	2-Nitrophenol	mg/kg	100	NS	NS	3.9	U	3.9	U	NA		0.39	U	NA		0.39	U	NA		0.42	U	0.4	U	0.39	U	0.39	U	NA		0.37	U	0.41	U
	4-Nitrophenol	mg/kg	100	NS	NS	2.5	U	2.5	U	NA		0.25	U	NA		0.26	U	NA		0.27	U	0.26	U	0.25	U	0.25	U	NA		0.24	U	0.26	U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLC-WASH(A)**		**GLC-WASH(B)**		**GLX-TPW-401**		**GLX-TPW-401A**		**GLX-TPW-402**		**GLX-TPW-402A**		**GLX-TPW-403**		**GLX-TPW-403A**		**GLX-TPW-404**		**GLX-TPW-405**		**GLX-TPW-406**			**GLX-TPW-407**		**GLX-TPW-408**	
		Sample Depth^:				N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft	
		Sample Date:				02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																					Low VOC		High VOC					
	2,4-Dinitrophenol	mg/kg	3	NS	NS	8.6	U	8.7	U	NA		0.87	U	NA		0.88	U	NA		0.93	U	0.88	U	0.86	U	0.86	U	NA		0.82	U	0.9	U
	Pentachlorophenol	mg/kg	3	NS	NS	3.6	U	3.6	U	NA		0.36	U	NA		0.36	U	NA		0.39	U	0.37	U	0.36	U	0.36	U	NA		0.34	U	0.38	U
	Phenol	mg/kg	1	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	2-Methylphenol	mg/kg	500	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	2.6	U	2.6	U	NA		0.26	U	NA		0.26	U	NA		0.28	U	0.26	U	0.26	U	0.26	U	NA		0.24	U	0.27	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	1.8	U	1.8	U	NA		0.18	U	NA		0.18	U	NA		0.19	U	0.18	U	0.18	U	0.18	U	NA		0.17	U	0.19	U
	Pyridine	mg/kg	500	NS	NS	1.9	U	2	U	NA		0.2	U	NA		0.2	U	NA		0.21	U	0.2	U	0.19	U	0.19	U	NA		0.18	U	0.2	U
	Total SVOCs	mg/kg	N/A	100	100	***84.0***		***98.6***		*NA*		***0.350***		*NA*		***0.80***		*NA*		***0.320***		***4.89***		*ND*		*ND*		*NA*		*ND*		***62.3***	
Pesticides																																	
	Delta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Lindane	mg/kg	0.003	NS	NS	NA		NA		NA		NA		NA		0.000566	U	NA		NA		0.000594	U	0.000573	U	0.000563	U	NA		0.000552	U	0.000590	U
	Alpha-BHC	mg/kg	50	NS	NS	NA		NA		NA		NA		NA		0.000707	U	NA		NA		0.000742	U	0.000716	U	0.000704	U	NA		0.000690	U	0.000738	U
	Beta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Heptachlor	mg/kg	0.3	NS	NS	NA		NA		NA		NA		NA		0.000849	U	NA		NA		0.000890	U	0.000859	U	0.000845	U	NA		0.000828	U	0.000885	U
	Aldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		NA		NA		NA		NA		0.00318	U	NA		NA		0.00334	U	0.00322	U	0.00317	U	NA		0.00310	U	0.00332	U
	Endrin	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		0.000707	U	NA		NA		0.000742	U	0.000716	U	0.000704	U	NA		0.000690	U	**0.00125**	**IP**
	Endrin ketone	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Dieldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		0.00106	U	NA		NA		0.00111	U	0.00107	U	0.00106	U	NA		0.00104	U	0.00111	U
	4,4'-DDE	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	4,4'-DDD	mg/kg	8	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	4,4'-DDT	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		0.00318	U	NA		NA		0.00334	U	0.00322	U	0.00317	U	NA		0.00310	U	0.00332	U
	Endosulfan I	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Endosulfan II	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		0.000707	U	NA		NA		0.000742	U	0.000716	U	0.000704	U	NA		0.000690	U	0.000738	U
	Methoxychlor	mg/kg	200	NS	NS	NA		NA		NA		NA		NA		0.00318	U	NA		NA		0.00334	U	0.00322	U	0.00317	U	NA		0.00310	U	0.00332	U
	Chlordane	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		0.0141	U	NA		NA		0.0148	U	0.0143	U	0.0141	U	NA		0.0138	U	0.0148	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		0.00170	U	NA		NA		0.00178	U	0.00172	U	0.00169	U	NA		0.00166	U	0.00177	U
Herbicides																																	
	MCPP	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		3.7	U	NA		NA		3.7	U	3.6	U	3.6	U	NA		3.5	U	3.7	U
	MCPA	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		3.7	U	NA		NA		3.7	U	3.6	U	3.6	U	NA		3.5	U	3.7	U
	Dalapon	mg/kg	1,000	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	Dicamba	mg/kg	500	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	Dichloroprop	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	2,4-D	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	2,4-DB	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	2,4,5-T	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		0.037	U	NA		NA		0.037	U	0.036	U	0.036	U	NA		0.035	U	0.037	U
PCB Aroclors																																	
	Aroclor-1016	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1221	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1232	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1242	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1248	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1254	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1260	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1262	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	Aroclor-1268	mg/kg	1	NS	NS	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
	PCBs, Total	mg/kg	1	2	2	0.0348	U	0.0360	U	0.0350	U	0.0358	U	0.0385	U	NA		0.0393	U	0.0373	U	0.0367	U	0.0349	U	0.0356	U	NA		0.0342	U	0.0373	U
TPH																																	
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	**216**		**195**		NA		**114**		NA		**35.5**		NA		112	U	**122**		35.3	U	35.8	U	NA		34.1	U	**397**	
Metals, total																																	
	Antimony	mg/kg	20	NS	NS	**2.59**		**2.32**		2.10	U	NA		2.35	U	NA		2.40	U	NA		NA		NA		NA		NA		NA		NA	
	Arsenic	mg/kg	20	40	40	**8.13**		**9.58**		**2.31**		**4.02**		**14.3**		NA		**4.48**		**2.55**		**9.38**		**5.37**		**2.92**		NA		**1.42**		**6.77**	
	Barium	mg/kg	1,000	NS	NS	**26.6**		**48.5**		**14.9**		**24.6**		**35.9**		NA		**33.4**		**13.6**		**46.0**		**22.9**		**18.9**		NA		**11.6**		**26.9**	
	Beryllium	mg/kg	90	NS	NS	**0.231**		**0.276**		0.210	U	NA		**0.466**		NA		0.240	U	NA		NA		NA		NA		NA		NA		NA	
	Cadmium	mg/kg	70	30	80	**0.886**		**0.903**		**0.458**		**0.828**		**0.471**		NA		0.480	U	0.443	U	**1.03**		**0.435**		0.431	U	NA		**0.725**		**0.776**	
	Chromium	mg/kg	100	1,000	1,000	**10.4**		**14.2**		**6.72**		**11.9**		**34.4**		NA		**8.72**		**4.78**		**24.9**		**11.6**		**5.82**		NA		**11.7**		**13.8**	
	Lead	mg/kg	200	1,000	2,000	**96.4**		**198**		**6.31**		**31.7**		**75.0**		NA		**87.3**		**6.82**		**60.9**		**4.10**		**6.26**		NA		**2.32**		**129**	
	Mercury	mg/kg	20	10	10	**0.142**		**0.154**		NA		0.080	U	NA		0.082	U	NA		0.086	U	**0.10**		0.082	U	0.077	U	NA		0.079	U	**0.791**	
	Nickel	mg/kg	600	NS	NS	**8.94**		**10.7**		**5.46**		NA		**31.1**		NA		**6.52**		NA		NA		NA		NA		NA		NA		NA	
	Selenium	mg/kg	400	NS	NS	2.18	U	2.12	U	2.10	U	2.12	U	2.35	U	NA		2.40	U	2.21	U	2.12	U	2.13	U	2.15	U	NA		2.08	U	2.26	U
	Silver	mg/kg	100	NS	NS	0.437	U	0.424	U	0.420	U	0.425	U	0.471	U	NA		0.480	U	0.443	U	0.424	U	0.427	U	0.431	U	NA		0.416	U	0.451	U
	Thallium	mg/kg	8	NS	NS	2.18	U	2.12	U	2.10	U	NA		2.35	U	NA		2.40	U	NA		NA		NA		NA		NA		NA		NA	

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Green Line Extension Project - Washington Street
Somerville, Massachusetts

					Sample Location:	**GLC-WASH(A)**		**GLC-WASH(B)**		**GLX-TPW-401**		**GLX-TPW-401A**		**GLX-TPW-402**		**GLX-TPW-402A**		**GLX-TPW-403**		**GLX-TPW-403A**		**GLX-TPW-404**		**GLX-TPW-405**		**GLX-TPW-406**				**GLX-TPW-407**		**GLX-TPW-408**	
					Sample Depth^:	N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft	
					Sample Date:	02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																					Low VOC		High VOC					
	Vanadium	mg/kg	400	NS	NS	**12.9**		**14.7**		**7.86**		NA		**32.7**		NA		**13.3**		NA		NA		NA		NA		NA		NA		NA	
	Zinc	mg/kg	1,000	NS	NS	**77.5**		**113**		**24.6**		NA		**127**		NA		**73.9**		NA		NA		NA		NA		NA		NA		NA	

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Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:	GLC-WASH(A)		GLC-WASH(B)		GLX-TPW-401		GLX-TPW-401A		GLX-TPW-402		GLX-TPW-402A		GLX-TPW-403		GLX-TPW-403A		GLX-TPW-404		GLX-TPW-405		GLX-TPW-406				GLX-TPW-407		GLX-TPW-408	
		Sample Depth^:	N/A		N/A		0-3/3 ft		0-1 ft		0-6/4 ft		0-4 ft		0-3/3 ft		0-3 ft		0-3/2 ft		0-3/2 ft		0-2/1 ft		1 ft		0-5/3 ft		0-4/3 ft	
		Sample Date:	02/25/2020		02/25/2020		11/06/2019		03/01/2020		11/06/2019		03/09/2020		11/06/2019		03/01/2020		02/25/2020		02/25/2020		02/26/2020		02/26/2020		02/26/2020		02/26/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																		Low VOC		High VOC					
Metals, TCLP																														
	Lead	mg/L	5*	NS	NS	NA		0.500	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		0.500	U
General Chemistry																														
	Ignitability	none	NS	NS	NS	NI		NI		NA		NI		NA		NI		NI		NI		NI		NA		NI		NI	
	Specific conductance	umhos/cm	NS	4,000	8,000	**34**		**41**		NA		**160**		NA		**40**		**84**		**81**		**60**		**120**		NA		**91**		**60**	
	pH	su	NS	>2 <12.5	>2 <12.5	**8.4**		**8.6**		**6.8**		**9.0**		**9.2**		**8.9**		**10.0**		**8.1**		**7.8**		**8.0**		**9.8**		NA		**9.8**		**8.5**	
	Reactive Cyanide	mg/kg	NS	< 250	< 250	10	U	10	U	NA		10	U	NA		10	U	NA		10	U	10	U	10	U	10	U	NA		10	U	10	U
	Reactive Sulfide	mg/kg	NS	< 500	< 500	10	U	10	U	NA		10	U	NA		10	U	NA		10	U	10	U	10	U	10	U	NA		10	U	10	U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:		GLX-TPW-409		GLX-TPW-410		GLX-TPW-411		GLX-TPW-412		GLX-TPW-601								GLX-TPW-602								GLX-TPW-603				
						Sample Depth^:		0-3/1.5-2 ft		0-5/1 ft		0-4/2-2.5 ft		0-2/1-2 ft		0-8 ft		0-2/2 ft		2-5/3 ft		5-8/6 ft		0-8 ft		0-2/2 ft		2-5/4.5 ft		5-8/6.5 ft		0-5 ft		0-2/1.5 ft		2-5/3 ft	
						Sample Date:		03/16/2020		02/26/2020		03/27/2020		03/01/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																																
VOCs																																					
	Methylene chloride	mg/kg	0.1	NS	NS	0.2	U	0.0043	U	0.0025	U	0.32	U	NA		0.0035	U	0.54	U	0.0038	U	NA		0.28	U	2.4	U	0.0050	U	NA		0.0033	U	0.0033	U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Chloroform	mg/kg	0.2	NS	NS	0.059	U	0.0013	U	0.00074	U	0.095	U	NA		0.001	U	0.16	U	0.0011	U	NA		0.084	U	0.71	U	0.0015	U	NA		0.0010	U	0.00098	U
	Carbon tetrachloride	mg/kg	5	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Dibromochloromethane	mg/kg	0.005	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Tetrachloroethene	mg/kg	1	NS	NS	**1.1**		**0.014**		**0.0029**		0.032	U	NA		**0.0012**		**0.7**		0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Chlorobenzene	mg/kg	1	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	0.02	U	**0.00046**		0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Bromodichloromethane	mg/kg	0.1	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Bromoform	mg/kg	0.1	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Benzene	mg/kg	2	NS	NS	0.02	U	0.00043	U	**0.0020**		0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		**0.044**		0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Toluene	mg/kg	30	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		**0.11**		0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Ethylbenzene	mg/kg	40	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Chloromethane	mg/kg	100	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	Bromomethane	mg/kg	0.5	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Vinyl chloride	mg/kg	0.7	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Chloroethane	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,1-Dichloroethene	mg/kg	3	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	0.059	U	0.0013	U	0.00074	U	0.095	U	NA		0.001	U	0.16	U	0.0011	U	NA		0.084	U	0.71	U	0.0015	U	NA		0.0010	U	0.00098	U
	Trichloroethene	mg/kg	0.3	NS	NS	**0.05**		**0.0012**		0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	p/m-Xylene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	o-Xylene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		**0.078**		0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Xylenes (Total)	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		**0.078**		0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	0.039	U	**0.0013**		0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	0.039	U	**0.0013**		0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Dibromomethane	mg/kg	500	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Styrene	mg/kg	3	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	0.39	U	0.0087	U	0.0049	U	0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	Acetone	mg/kg	6	NS	NS	0.39	U	0.022	U	**0.11**		0.63	U	NA		**0.097**		1.1	U	**0.034**		NA		0.56	U	4.7	U	**0.11**		NA		**0.022**		**0.027**	
	Carbon disulfide	mg/kg	100	NS	NS	0.39	U	0.0087	U	0.0049	U	0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	2-Butanone	mg/kg	4	NS	NS	0.39	U	0.0087	U	**0.0055**		0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	0.39	U	0.0087	U	0.0049	U	0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	2-Hexanone	mg/kg	100	NS	NS	0.39	U	0.0087	U	0.0049	U	0.63	U	NA		0.007	U	1.1	U	0.0076	U	NA		0.56	U	4.7	U	0.01	U	NA		0.0066	U	0.0065	U
	Bromochloromethane	mg/kg	NS	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Tetrahydrofuran	mg/kg	500	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,3-Dichloropropane	mg/kg	500	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	0.02	U	0.00043	U	0.00025	U	0.032	U	NA		0.00035	U	0.054	U	0.00038	U	NA		0.028	U	0.24	U	0.00050	U	NA		0.00033	U	0.00033	U
	Bromobenzene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	n-Butylbenzene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	sec-Butylbenzene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	tert-Butylbenzene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	o-Chlorotoluene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	p-Chlorotoluene	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	0.12	U	0.0026	U	0.0015	U	0.19	U	NA		0.0021	U	0.33	U	0.0023	U	NA		0.17	U	1.4	U	0.0030	U	NA		0.0020	U	0.0020	U
	Hexachlorobutadiene	mg/kg	30	NS	NS	0.16	U	0.0035	U	0.0020	U	0.25	U	NA		0.0028	U	0.43	U	0.0030	U	NA		0.22	U	1.9	U	0.0040	U	NA		0.0027	U	0.0026	U
	Isopropylbenzene	mg/kg	1,000	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	p-Isopropyltoluene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:		GLX-TPW-409		GLX-TPW-410		GLX-TPW-411		GLX-TPW-412		GLX-TPW-601								GLX-TPW-602								GLX-TPW-603			
						Sample Depth^:		0-3/1.5-2 ft		0-5/1 ft		0-4/2-2.5 ft		0-2/1-2 ft		0-8 ft		0-2/2 ft		2-5/3 ft		5-8/6 ft		0-8 ft		0-2/2 ft		2-5/4.5 ft		5-8/6.5 ft		0-5 ft		0-2/1.5 ft		2-5/3 ft	
						Sample Date:		03/16/2020		02/26/2020		03/27/2020		03/01/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																																
	Naphthalene	mg/kg	4	NS	NS	0.16	U	0.0035	U	0.0020	U	**14**		NA		0.0028	U	0.43	U	0.0030	U	NA		**1**		**93**		0.0040	U	NA		0.0027	U	0.0026	U
	n-Propylbenzene	mg/kg	100	NS	NS	0.039	U	0.00087	U	0.00049	U	0.063	U	NA		0.0007	U	0.11	U	0.00076	U	NA		0.056	U	0.47	U	0.0010	U	NA		0.00066	U	0.00065	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	**1.2**		0.0020	U	NA		0.0013	U	0.0013	U
	Ethyl ether	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Isopropyl Ether	mg/kg	100	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	0.078	U	0.0017	U	0.00099	U	0.13	U	NA		0.0014	U	0.22	U	0.0015	U	NA		0.11	U	0.94	U	0.0020	U	NA		0.0013	U	0.0013	U
	1,4-Dioxane	mg/kg	0.2	NS	NS	3.1	U	0.069	U	0.04	U	5.1	U	NA		0.056	U	8.7	U	0.061	U	NA		4.5	U	38	U	0.08	U	NA		0.053	U	0.052	U
	Total VOCs	mg/kg	N/A	4	10	***1.15***		***0.017***		***0.120***		***14***		*NA*		***0.098***		***0.70***		***0.034***		*NA*		***1.23***		***94.2***		***0.110***		*NA*		***0.022***		***0.027***	
SVOCs																																			
	Acenaphthene	mg/kg	4	NS	NS	**0.18**		0.15	U	0.74	U	**3.1**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2-Chloronaphthalene	mg/kg	1,000	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,6-Dinitrotoluene	mg/kg	100	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Azobenzene	mg/kg	NS	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Fluoranthene	mg/kg	1,000	NS	NS	**4.3**		**0.2**		**20**		**9.9**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS	0.2	U	0.2	U	1	U	0.37	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Hexachlorobutadiene	mg/kg	30	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Hexachloroethane	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Isophorone	mg/kg	100	NS	NS	0.16	U	0.17	U	0.84	U	0.31	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Naphthalene	mg/kg	4	NS	NS	**0.46**		0.19	U	**1.3**		**9.9**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Nitrobenzene	mg/kg	500	NS	NS	0.16	U	0.17	U	0.84	U	0.31	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Butyl benzyl phthalate	mg/kg	100	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Di-n-butylphthalate	mg/kg	50	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Di-n-octylphthalate	mg/kg	1,000	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Diethyl phthalate	mg/kg	10	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dimethyl phthalate	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Benzo(a)anthracene	mg/kg	7	NS	NS	**2.2**		0.11	U	**10**		**4.1**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Benzo(a)pyrene	mg/kg	2	NS	NS	**1.9**		0.15	U	**11**		**5**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS	**2.2**		0.11	U	**14**		**5.3**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS	**0.71**		0.11	U	**4.4**		**1.8**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Chrysene	mg/kg	70	NS	NS	**1.8**		0.11	U	**9.8**		**3.5**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Acenaphthylene	mg/kg	1	NS	NS	**0.25**		0.15	U	**1.6**		**1.2**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Anthracene	mg/kg	1,000	NS	NS	**0.87**		0.11	U	**2.1**		**4**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS	**0.89**		0.15	U	**6.6**		**2.5**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Fluorene	mg/kg	1,000	NS	NS	**0.31**		0.19	U	0.93	U	**4**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Phenanthrene	mg/kg	10	NS	NS	**2.3**		**0.13**		**6.1**		**13**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS	**0.24**		0.08	U	**1.5**		**0.56**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS	**1**		0.15	U	**7.2**		**2.8**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Pyrene	mg/kg	1,000	NS	NS	**3.6**		**0.17**		**19**		**8.4**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Aniline	mg/kg	1,000	NS	NS	0.22	U	0.23	U	1.1	U	0.41	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	4-Chloroaniline	mg/kg	1	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dibenzofuran	mg/kg	100	NS	NS	**0.21**		0.19	U	0.93	U	**3.3**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2-Methylnaphthalene	mg/kg	0.7	NS	NS	**0.15**		0.08	U	**0.49**		**3.1**		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Acetophenone	mg/kg	1,000	NS	NS	0.18	U	0.19	U	0.93	U	0.34	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2-Chlorophenol	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS	0.077	U	0.08	U	0.39	U	0.14	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2-Nitrophenol	mg/kg	100	NS	NS	0.39	U	0.41	U	2	U	0.74	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	4-Nitrophenol	mg/kg	100	NS	NS	0.26	U	0.26	U	1.3	U	0.48	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**	Sample Location:	GLX-TPW-409		GLX-TPW-410		GLX-TPW-411		GLX-TPW-412		GLX-TPW-601				GLX-TPW-602				GLX-TPW-603		
						Sample Depth^:	0-3/1.5-2 ft		0-5/1 ft		0-4/2-2.5 ft		0-2/1-2 ft		0-8 ft	0-2/2 ft	2-5/3 ft	5-8/6 ft	0-8 ft	0-2/2 ft	2-5/4.5 ft	5-8/6.5 ft	0-5 ft	0-2/1.5 ft	2-5/3 ft
						Sample Date:	03/16/2020		02/26/2020		03/27/2020		03/01/2020		10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019
	2,4-Dinitrophenol	mg/kg	3	NS	NS		0.88	U	0.91	U	4.4	U	1.6	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	mg/kg	3	NS	NS		0.36	U	0.38	U	1.8	U	0.68	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenol	mg/kg	1	NS	NS		0.18	U	0.19	U	0.93	U	0.34	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Methylphenol	mg/kg	500	NS	NS		0.18	U	0.19	U	0.93	U	0.34	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS		0.26	U	0.27	U	1.3	U	0.49	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS		0.18	U	0.19	U	0.93	U	0.34	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyridine	mg/kg	500	NS	NS		0.2	U	0.2	U	1	U	0.37	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total SVOCs	mg/kg	N/A	100	100		***23.6***		***0.50***		***115***		***85.5***		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Pesticides																									
	Delta-BHC	mg/kg	10	NS	NS		0.00174	U	0.00182	U	0.00870	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lindane	mg/kg	0.003	NS	NS		0.000581	U	0.000608	U	0.00290	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Alpha-BHC	mg/kg	50	NS	NS		0.000727	U	0.000760	U	0.00362	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beta-BHC	mg/kg	10	NS	NS		0.00174	U	0.00182	U	0.00870	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlor	mg/kg	0.3	NS	NS		0.000872	U	0.000912	U	0.00435	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aldrin	mg/kg	0.08	NS	NS		0.00174	U	0.00182	U	0.00870	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Heptachlor epoxide	mg/kg	0.1	NS	NS		0.00327	U	0.00342	U	0.0163	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endrin	mg/kg	10	NS	NS		0.000727	U	0.000760	U	0.00362	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endrin ketone	mg/kg	10	NS	NS		0.00174	U	0.00182	U	0.00870	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dieldrin	mg/kg	0.08	NS	NS		0.00109	U	0.00114	U	0.00544	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDE	mg/kg	6	NS	NS		0.00174	U	0.00182	U	0.00870	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDD	mg/kg	8	NS	NS		0.00174	U	0.00182	U	0.00870	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4,4'-DDT	mg/kg	6	NS	NS		0.00327	U	0.00342	U	**0.0320**		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan I	mg/kg	0.5	NS	NS		0.00174	U	0.00182	U	0.00870	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan II	mg/kg	0.5	NS	NS		0.00174	U	0.00182	U	0.00870	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Endosulfan sulfate	mg/kg	0.5	NS	NS		0.000727	U	0.000760	U	0.00362	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methoxychlor	mg/kg	200	NS	NS		0.00327	U	0.00342	U	0.0163	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlordane	mg/kg	0.7	NS	NS		0.0145	U	0.0152	U	**0.123**		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.00174	U	0.00182	U	0.00870	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides																									
	MCPP	mg/kg	NS	NS	NS		3.6	U	3.8	U	3.7	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MCPA	mg/kg	100	NS	NS		3.6	U	3.8	U	3.7	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dalapon	mg/kg	1,000	NS	NS		0.036	U	0.038	U	0.037	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dicamba	mg/kg	500	NS	NS		0.036	U	0.038	U	0.037	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroprop	mg/kg	NS	NS	NS		0.036	U	0.038	U	0.037	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-D	mg/kg	100	NS	NS		0.036	U	0.038	U	0.037	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4-DB	mg/kg	100	NS	NS		0.036	U	0.038	U	0.037	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-T	mg/kg	100	NS	NS		0.036	U	0.038	U	0.037	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS		0.036	U	0.038	U	0.037	U	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB Aroclors																									
	Aroclor-1016	mg/kg	1	NS	NS		0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
	Aroclor-1221	mg/kg	1	NS	NS		0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
	Aroclor-1232	mg/kg	1	NS	NS		0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
	Aroclor-1242	mg/kg	1	NS	NS		0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
	Aroclor-1248	mg/kg	1	NS	NS		0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
	Aroclor-1254	mg/kg	1	NS	NS		0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
	Aroclor-1260	mg/kg	1	NS	NS		0.0355	U	0.0363	U	**0.0886**		0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
	Aroclor-1262	mg/kg	1	NS	NS		0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
	Aroclor-1268	mg/kg	1	NS	NS		0.0355	U	0.0363	U	0.0367	U	0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
	PCBs, Total	mg/kg	1	2	2		0.0355	U	0.0363	U	**0.0886**		0.0338	U	0.034	U	NA	NA	NA	0.036	U	NA	NA	0.034	U	NA	NA
TPH																									
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000		**527**		**110**		**1,450**		**308**		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total																									
	Antimony	mg/kg	20	NS	NS		NA		NA		2.20	U	NA		2.10	U	NA	NA	NA	**3.16**		NA	NA	1.98	U	NA	NA
	Arsenic	mg/kg	20	40	40		**11.6**		**3.70**		**6.45**		**2.97**		**10.3**		NA	NA	NA	**17.3**		NA	NA	**24.9**		NA	NA
	Barium	mg/kg	1,000	NS	NS		**30.1**		**16.6**		**51.3**		**18.2**		**18.4**		NA	NA	NA	**27.2**		NA	NA	**16.8**		NA	NA
	Beryllium	mg/kg	90	NS	NS		NA		NA		**0.366**		NA		0.210	U	NA	NA	NA	0.210	U	NA	NA	0.198	U	NA	NA
	Cadmium	mg/kg	70	30	80		**1.20**		**0.598**		**0.555**		**0.537**		0.421	U	NA	NA	NA	**0.822**		NA	NA	0.397	U	NA	NA
	Chromium	mg/kg	100	1,000	1,000		**22.7**		**9.97**		**24.8**		**11.1**		**10.1**		NA	NA	NA	**13.6**		NA	NA	**8.27**		NA	NA
	Lead	mg/kg	200	1,000	2,000		**144**		**71.0**		**359**		**46.4**		**24.8**		NA	NA	NA	**56.6**		NA	NA	**21.6**		NA	NA
	Mercury	mg/kg	20	10	10		0.082	U	0.082	U	**0.175**		**0.140**		NA		NA	NA	NA	NA		NA	NA	NA		NA	NA
	Nickel	mg/kg	600	NS	NS		NA		NA		**16.2**		NA		**7.53**		NA	NA	NA	**11.0**		NA	NA	**6.64**		NA	NA
	Selenium	mg/kg	400	NS	NS		2.12	U	2.28	U	2.20	U	2.02	U	2.10	U	NA	NA	NA	2.10	U	NA	NA	1.98	U	NA	NA
	Silver	mg/kg	100	NS	NS		0.425	U	0.457	U	0.440	U	0.404	U	0.421	U	NA	NA	NA	0.420	U	NA	NA	0.397	U	NA	NA
	Thallium	mg/kg	8	NS	NS		NA		NA		2.20	U	NA		2.10	U	NA	NA	NA	2.10	U	NA	NA	1.98	U	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	**GLX-TPW-409**	**GLX-TPW-410**	**GLX-TPW-411**	**GLX-TPW-412**	**GLX-TPW-601**				**GLX-TPW-602**				**GLX-TPW-603**		
						Sample Depth^:	0-3/1.5-2 ft	0-5/1 ft	0-4/2-2.5 ft	0-2/1-2 ft	0-8 ft	0-2/2 ft	2-5/3 ft	5-8/6 ft	0-8 ft	0-2/2 ft	2-5/4.5 ft	5-8/6.5 ft	0-5 ft	0-2/1.5 ft	2-5/3 ft
						Sample Date:	03/16/2020	02/26/2020	03/27/2020	03/01/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																
	Vanadium	mg/kg	400	NS	NS		NA	NA	**24.4**	NA	**8.97**	NA	NA	NA	**15.8**	NA	NA	NA	**8.10**	NA	NA
	Zinc	mg/kg	1,000	NS	NS		NA	NA	**155**	NA	**99.2**	NA	NA	NA	**136**	NA	NA	NA	**25.3**	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**	Sample Location:	GLX-TPW-409		GLX-TPW-410		GLX-TPW-411		GLX-TPW-412		GLX-TPW-601				GLX-TPW-602				GLX-TPW-603		
						Sample Depth^:	0-3/1.5-2 ft		0-5/1 ft		0-4/2-2.5 ft		0-2/1-2 ft		0-8 ft	0-2/2 ft	2-5/3 ft	5-8/6 ft	0-8 ft	0-2/2 ft	2-5/4.5 ft	5-8/6.5 ft	0-5 ft	0-2/1.5 ft	2-5/3 ft
						Sample Date:	03/16/2020		02/26/2020		03/27/2020		03/01/2020		10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019
Metals, TCLP																									
	Lead	mg/L	5*	NS	NS		0.500	U	NA		**1.09**		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																									
	Ignitability	none	NS	NS	NS		NI		NI		NI		NI		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Specific conductance	umhos/cm	NS	4,000	8,000		**120**		**220**		**79**		**300**		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	pH	su	NS	>2 <12.5	>2 <12.5		**9.0**		**8.1**		**8.4**		**9.1**		NA	**7.1**	**6.7**	**6.9**	NA	**7.6**	**7.6**	**6.9**	NA	**7.8**	**7.0**
	Reactive Cyanide	mg/kg	NS	< 250	< 250		10	U	10	U	10	U	10	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Reactive Sulfide	mg/kg	NS	< 500	< 500		10	U	10	U	10	U	10	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-603A	GLX-TPW-604			GLX-TPW-604A	GLX-TPW-605					GLX-TPW-605A	GLX-TPW-606		
						Sample Depth^:	0-5 ft	0-5 ft	0-2/1 ft	2-5/3 ft	0-5 ft	0-8 ft	0-2/1 ft	2-5/3 ft	3 ft	5-8/8 ft	0-8 ft	0-5 ft	0-2/1 ft	2-5/4 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019 Field Dup	10/20/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**															
VOCs																				
	Methylene chloride	mg/kg	0.1	NS	NS		NA	NA	0.0034 U	0.0045 U	NA	NA	0.0041 U	0.0047 U	0.0050 U	0.0036 U	NA	NA	0.0040 U	0.0024 U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Chloroform	mg/kg	0.2	NS	NS		NA	NA	0.0010 U	0.0013 U	NA	NA	0.0012 U	0.0014 U	0.0015 U	0.0011 U	NA	NA	0.0012 U	0.00072 U
	Carbon tetrachloride	mg/kg	5	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Dibromochloromethane	mg/kg	0.005	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Tetrachloroethene	mg/kg	1	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Chlorobenzene	mg/kg	1	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS		NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Bromodichloromethane	mg/kg	0.1	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Bromoform	mg/kg	0.1	NS	NS		NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Benzene	mg/kg	2	NS	NS		NA	NA	0.00034 U	**0.00061**	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Toluene	mg/kg	30	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Ethylbenzene	mg/kg	40	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Chloromethane	mg/kg	100	NS	NS		NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	Bromomethane	mg/kg	0.5	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	Vinyl chloride	mg/kg	0.7	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Chloroethane	mg/kg	100	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,1-Dichloroethene	mg/kg	3	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS		NA	NA	0.0010 U	0.0013 U	NA	NA	0.0012 U	0.0014 U	0.0015 U	0.0011 U	NA	NA	0.0012 U	0.00072 U
	Trichloroethene	mg/kg	0.3	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	p/m-Xylene	mg/kg	100	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	o-Xylene	mg/kg	100	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Xylenes (Total)	mg/kg	100	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Dibromomethane	mg/kg	500	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	Styrene	mg/kg	3	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS		NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	Acetone	mg/kg	6	NS	NS		NA	NA	**0.049**	**0.041**	NA	NA	**0.034**	**0.092**	**0.061**	0.018 U	NA	NA	**0.043**	**0.016**
	Carbon disulfide	mg/kg	100	NS	NS		NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	2-Butanone	mg/kg	4	NS	NS		NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS		NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	2-Hexanone	mg/kg	100	NS	NS		NA	NA	0.0068 U	0.0089 U	NA	NA	0.0081 U	0.0094 U	0.01 U	0.0072 U	NA	NA	0.0080 U	0.0048 U
	Bromochloromethane	mg/kg	NS	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	Tetrahydrofuran	mg/kg	500	NS	NS		NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	1,3-Dichloropropane	mg/kg	500	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS		NA	NA	0.00034 U	0.00045 U	NA	NA	0.00041 U	0.00047 U	0.00050 U	0.00036 U	NA	NA	0.00040 U	0.00024 U
	Bromobenzene	mg/kg	100	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	n-Butylbenzene	mg/kg	100	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	sec-Butylbenzene	mg/kg	100	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	tert-Butylbenzene	mg/kg	100	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	o-Chlorotoluene	mg/kg	100	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	p-Chlorotoluene	mg/kg	100	NS	NS		NA	NA	0.0014 U	0.0018 U	NA	NA	0.0016 U	0.0019 U	0.0020 U	0.0014 U	NA	NA	0.0016 U	0.00096 U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS		NA	NA	0.0020 U	0.0027 U	NA	NA	0.0024 U	0.0028 U	0.0030 U	0.0022 U	NA	NA	0.0024 U	0.0014 U
	Hexachlorobutadiene	mg/kg	30	NS	NS		NA	NA	0.0027 U	0.0036 U	NA	NA	0.0032 U	0.0038 U	0.0040 U	0.0029 U	NA	NA	0.0032 U	0.0019 U
	Isopropylbenzene	mg/kg	1,000	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U
	p-Isopropyltoluene	mg/kg	100	NS	NS		NA	NA	0.00068 U	0.00089 U	NA	NA	0.00081 U	0.00094 U	0.0010 U	0.00072 U	NA	NA	0.00080 U	0.00048 U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-603A		GLX-TPW-604				GLX-TPW-604A		GLX-TPW-605						GLX-TPW-605A		GLX-TPW-606			
						Sample Depth^:	0-5 ft		0-5 ft	0-2/1 ft		2-5/3 ft	0-5 ft		0-8 ft	0-2/1 ft		2-5/3 ft	3 ft		5-8/8 ft	0-8 ft		0-5 ft	0-2/1 ft		2-5/4 ft	
						Sample Date:	02/08/2020		10/20/2019	10/20/2019		10/20/2019	02/08/2020		10/20/2019	10/20/2019		10/20/2019	10/20/2019 Field Dup		10/20/2019	02/08/2020		11/02/2019	11/02/2019		11/02/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																							
	Naphthalene	mg/kg	4	NS	NS		NA		NA	0.0027	U	0.0036	U	NA		0.0032	U	0.0038	U	0.0040	U	0.0029	U	NA		NA	0.0032	U	0.0019	U
	n-Propylbenzene	mg/kg	100	NS	NS		NA		NA	0.00068	U	0.00089	U	NA		0.00081	U	0.00094	U	0.0010	U	0.00072	U	NA		NA	0.00080	U	0.00048	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS		NA		NA	0.0014	U	0.0018	U	NA		0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA		NA	0.0016	U	0.00096	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		NA		NA	0.0014	U	0.0018	U	NA		0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA		NA	0.0016	U	0.00096	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS		NA		NA	0.0014	U	0.0018	U	NA		0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA		NA	0.0016	U	0.00096	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS		NA		NA	0.0014	U	0.0018	U	NA		0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA		NA	0.0016	U	0.00096	U
	Ethyl ether	mg/kg	100	NS	NS		NA		NA	0.0014	U	0.0018	U	NA		0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA		NA	0.0016	U	0.00096	U
	Isopropyl Ether	mg/kg	100	NS	NS		NA		NA	0.0014	U	0.0018	U	NA		0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA		NA	0.0016	U	0.00096	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS		NA		NA	0.0014	U	0.0018	U	NA		0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA		NA	0.0016	U	0.00096	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS		NA		NA	0.0014	U	0.0018	U	NA		0.0016	U	0.0019	U	0.0020	U	0.0014	U	NA		NA	0.0016	U	0.00096	U
	1,4-Dioxane	mg/kg	0.2	NS	NS		NA		NA	0.054	U	0.072	U	NA		0.065	U	0.075	U	0.08	U	0.057	U	NA		NA	0.064	U	0.038	U
	Total VOCs	mg/kg	N/A	4	10		*NA*		*NA*	***0.049***		***0.042***	*NA*		*NA*	***0.034***		***0.092***	***0.061***		*ND*	*NA*		*NA*	***0.043***		***0.016***	
SVOCs																												
	Acenaphthene	mg/kg	4	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA	**0.85**		NA	NA		NA	
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Azobenzene	mg/kg	NS	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Fluoranthene	mg/kg	1,000	NS	NS		0.1	U	NA	NA		NA	**0.19**		NA	NA		NA	NA		NA	**6.6**		NA	NA		NA	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		0.18	U	NA	NA		NA	0.19	U	NA	NA		NA	NA		NA	0.2	U	NA	NA		NA	
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Hexachloroethane	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	Isophorone	mg/kg	100	NS	NS		0.15	U	NA	NA		NA	0.16	U	NA	NA		NA	NA		NA	0.17	U	NA	NA		NA	
	Naphthalene	mg/kg	4	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	**0.56**		NA	NA		NA	
	Nitrobenzene	mg/kg	500	NS	NS		0.15	U	NA	NA		NA	0.16	U	NA	NA		NA	NA		NA	0.17	U	NA	NA		NA	
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Butyl benzyl phthalate	mg/kg	100	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Di-n-butylphthalate	mg/kg	50	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Diethyl phthalate	mg/kg	10	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Dimethyl phthalate	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	Benzo(a)anthracene	mg/kg	7	NS	NS		0.1	U	NA	NA		NA	0.1	U	NA	NA		NA	NA		NA	**6.1**		NA	NA		NA	
	Benzo(a)pyrene	mg/kg	2	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA	**7.7**		NA	NA		NA	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		0.1	U	NA	NA		NA	**0.16**		NA	NA		NA	NA		NA	**12**		NA	NA		NA	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		0.1	U	NA	NA		NA	0.1	U	NA	NA		NA	NA		NA	**3.7**		NA	NA		NA	
	Chrysene	mg/kg	70	NS	NS		0.1	U	NA	NA		NA	**0.12**		NA	NA		NA	NA		NA	**11**		NA	NA		NA	
	Acenaphthylene	mg/kg	1	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA	**0.35**		NA	NA		NA	
	Anthracene	mg/kg	1,000	NS	NS		0.1	U	NA	NA		NA	0.1	U	NA	NA		NA	NA		NA	**1.8**		NA	NA		NA	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA	**4.7**		NA	NA		NA	
	Fluorene	mg/kg	1,000	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	**0.86**		NA	NA		NA	
	Phenanthrene	mg/kg	10	NS	NS		0.1	U	NA	NA		NA	**0.14**		NA	NA		NA	NA		NA	**4.5**		NA	NA		NA	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	**1.3**		NA	NA		NA	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		0.14	U	NA	NA		NA	0.14	U	NA	NA		NA	NA		NA	**4.8**		NA	NA		NA	
	Pyrene	mg/kg	1,000	NS	NS		0.1	U	NA	NA		NA	**0.17**		NA	NA		NA	NA		NA	**6.6**		NA	NA		NA	
	Aniline	mg/kg	1,000	NS	NS		0.2	U	NA	NA		NA	0.21	U	NA	NA		NA	NA		NA	0.23	U	NA	NA		NA	
	4-Chloroaniline	mg/kg	1	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	Dibenzofuran	mg/kg	100	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	**0.47**		NA	NA		NA	
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	**0.29**		NA	NA		NA	
	Acetophenone	mg/kg	1,000	NS	NS		0.17	U	NA	NA		NA	0.18	U	NA	NA		NA	NA		NA	0.19	U	NA	NA		NA	
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	2-Chlorophenol	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		0.072	U	NA	NA		NA	0.074	U	NA	NA		NA	NA		NA	0.079	U	NA	NA		NA	
	2-Nitrophenol	mg/kg	100	NS	NS		0.37	U	NA	NA		NA	0.38	U	NA	NA		NA	NA		NA	0.41	U	NA	NA		NA	
	4-Nitrophenol	mg/kg	100	NS	NS		0.24	U	NA	NA		NA	0.25	U	NA	NA		NA	NA		NA	0.26	U	NA	NA		NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-603A		GLX-TPW-604				GLX-TPW-604A		GLX-TPW-605						GLX-TPW-605A		GLX-TPW-606			
		Sample Depth^:				0-5 ft		0-5 ft		0-2/1 ft	2-5/3 ft	0-5 ft		0-8 ft		0-2/1 ft	2-5/3 ft	3 ft	5-8/8 ft	0-8 ft		0-5 ft		0-2/1 ft	2-5/4 ft
		Sample Date:				02/08/2020		10/20/2019		10/20/2019	10/20/2019	02/08/2020		10/20/2019		10/20/2019	10/20/2019	10/20/2019 Field Dup	10/20/2019	02/08/2020		11/02/2019		11/02/2019	11/02/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																				
	2,4-Dinitrophenol	mg/kg	3	NS	NS	0.82	U	NA		NA	NA	0.85	U	NA		NA	NA	NA	NA	0.9	U	NA		NA	NA
	Pentachlorophenol	mg/kg	3	NS	NS	0.34	U	NA		NA	NA	0.35	U	NA		NA	NA	NA	NA	0.38	U	NA		NA	NA
	Phenol	mg/kg	1	NS	NS	0.17	U	NA		NA	NA	0.18	U	NA		NA	NA	NA	NA	0.19	U	NA		NA	NA
	2-Methylphenol	mg/kg	500	NS	NS	0.17	U	NA		NA	NA	0.18	U	NA		NA	NA	NA	NA	0.19	U	NA		NA	NA
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	0.24	U	NA		NA	NA	0.25	U	NA		NA	NA	NA	NA	0.27	U	NA		NA	NA
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	0.17	U	NA		NA	NA	0.18	U	NA		NA	NA	NA	NA	0.19	U	NA		NA	NA
	Pyridine	mg/kg	500	NS	NS	0.18	U	NA		NA	NA	0.19	U	NA		NA	NA	NA	NA	0.2	U	NA		NA	NA
	Total SVOCs	mg/kg	N/A	100	100	*ND*		*NA*		*NA*	*NA*	***0.780***		*NA*		*NA*	*NA*	*NA*	*NA*	***74.2***		*NA*		*NA*	*NA*
Pesticides																									
	Delta-BHC	mg/kg	10	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Lindane	mg/kg	0.003	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Alpha-BHC	mg/kg	50	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Beta-BHC	mg/kg	10	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Heptachlor	mg/kg	0.3	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Aldrin	mg/kg	0.08	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Endrin	mg/kg	10	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Endrin ketone	mg/kg	10	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Dieldrin	mg/kg	0.08	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	4,4'-DDE	mg/kg	6	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	4,4'-DDD	mg/kg	8	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	4,4'-DDT	mg/kg	6	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Endosulfan I	mg/kg	0.5	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Endosulfan II	mg/kg	0.5	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Methoxychlor	mg/kg	200	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Chlordane	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
Herbicides																									
	MCPP	mg/kg	NS	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	MCPA	mg/kg	100	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Dalapon	mg/kg	1,000	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Dicamba	mg/kg	500	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	Dichloroprop	mg/kg	NS	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	2,4-D	mg/kg	100	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	2,4-DB	mg/kg	100	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	2,4,5-T	mg/kg	100	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		NA		NA	NA	NA		NA		NA	NA	NA	NA	NA		NA		NA	NA
PCB Aroclors																									
	Aroclor-1016	mg/kg	1	NS	NS	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
	Aroclor-1221	mg/kg	1	NS	NS	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
	Aroclor-1232	mg/kg	1	NS	NS	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
	Aroclor-1242	mg/kg	1	NS	NS	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
	Aroclor-1248	mg/kg	1	NS	NS	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
	Aroclor-1254	mg/kg	1	NS	NS	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
	Aroclor-1260	mg/kg	1	NS	NS	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
	Aroclor-1262	mg/kg	1	NS	NS	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
	Aroclor-1268	mg/kg	1	NS	NS	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
	PCBs, Total	mg/kg	1	2	2	NA		0.035	U	NA	NA	NA		0.037	U	NA	NA	NA	NA	NA		0.0349	U	NA	NA
TPH																									
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	34	U	NA		NA	NA	**56.4**		NA		NA	NA	NA	NA	**390**		NA		NA	NA
Metals, total																									
	Antimony	mg/kg	20	NS	NS	NA		1.99	U	NA	NA	NA		2.14	U	NA	NA	NA	NA	NA		2.11	U	NA	NA
	Arsenic	mg/kg	20	40	40	NA		**10.5**		NA	NA	NA		**6.98**		NA	NA	NA	NA	NA		**6.58**		NA	NA
	Barium	mg/kg	1,000	NS	NS	NA		**28.7**		NA	NA	NA		**29.3**		NA	NA	NA	NA	NA		**35.6**		NA	NA
	Beryllium	mg/kg	90	NS	NS	NA		0.199	U	NA	NA	NA		0.214	U	NA	NA	NA	NA	NA		0.211	U	NA	NA
	Cadmium	mg/kg	70	30	80	NA		0.399	U	NA	NA	NA		0.428	U	NA	NA	NA	NA	NA		0.422	U	NA	NA
	Chromium	mg/kg	100	1,000	1,000	NA		**15.0**		NA	NA	NA		**15.3**		NA	NA	NA	NA	NA		**15.2**		NA	NA
	Lead	mg/kg	200	1,000	2,000	NA		**14.3**		NA	NA	NA		**15.4**		NA	NA	NA	NA	NA		**25.6**		NA	NA
	Mercury	mg/kg	20	10	10	0.079	U	NA		NA	NA	0.074	U	NA		NA	NA	NA	NA	**0.088**		NA		NA	NA
	Nickel	mg/kg	600	NS	NS	NA		**9.62**		NA	NA	NA		**9.41**		NA	NA	NA	NA	NA		**11.2**		NA	NA
	Selenium	mg/kg	400	NS	NS	NA		1.99	U	NA	NA	NA		2.14	U	NA	NA	NA	NA	NA		2.11	U	NA	NA
	Silver	mg/kg	100	NS	NS	NA		0.399	U	NA	NA	NA		0.428	U	NA	NA	NA	NA	NA		0.422	U	NA	NA
	Thallium	mg/kg	8	NS	NS	NA		1.99	U	NA	NA	NA		2.14	U	NA	NA	NA	NA	NA		2.11	U	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	**GLX-TPW-603A**	**GLX-TPW-604**			**GLX-TPW-604A**	**GLX-TPW-605**					**GLX-TPW-605A**	**GLX-TPW-606**		
						Sample Depth^:	0-5 ft	0-5 ft	0-2/1 ft	2-5/3 ft	0-5 ft	0-8 ft	0-2/1 ft	2-5/3 ft	3 ft	5-8/8 ft	0-8 ft	0-5 ft	0-2/1 ft	2-5/4 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**										Field Dup					
	Vanadium	mg/kg	400	NS	NS		NA	**12.0**	NA	NA	NA	**14.2**	NA	NA	NA	NA	NA	**17.5**	NA	NA
	Zinc	mg/kg	1,000	NS	NS		NA	**33.3**	NA	NA	NA	**38.5**	NA	NA	NA	NA	NA	**35.5**	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLX-TPW-603A**		**GLX-TPW-604**						**GLX-TPW-604A**		**GLX-TPW-605**									**GLX-TPW-605A**		**GLX-TPW-606**									
		Sample Depth^:				0-5 ft		0-5 ft		0-2/1 ft		2-5/3 ft		0-5 ft		0-8 ft		0-2/1 ft		2-5/3 ft		3 ft		5-8/8 ft		0-8 ft		0-5 ft		0-2/1 ft		2-5/4 ft			
		Sample Date:				02/08/2020		10/20/2019		10/20/2019		10/20/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		02/08/2020		11/02/2019		11/02/2019		11/02/2019			
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																	Field Dup													
Metals, TCLP																																			
	Lead	mg/L	5*	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
General Chemistry																																			
	Ignitability	none	NS	NS	NS	NI		NA		NA		NA		NI		NA		NA		NA		NA		NA		NI		NA		NA		NA			
	Specific conductance	umhos/cm	NS	4,000	8,000	**13**		NA		NA		NA		**11**		NA		NA		NA		NA		NA		**13**		NA		NA		NA			
	pH	su	NS	>2 <12.5	>2 <12.5	**7.7**		NA		**7.5**		**6.8**		**6.9**		NA		**7.5**		**6.6**		NA		**5.5**		**7.2**		NA		**6.8**		**6.4**			
	Reactive Cyanide	mg/kg	NS	< 250	< 250	10	U	NA		NA		NA		10	U	NA		NA		NA		NA		NA		10	U	NA		NA		NA			
	Reactive Sulfide	mg/kg	NS	< 500	< 500	10	U	NA		NA		NA		10	U	NA		NA		NA		NA		NA		10	U	NA		NA		NA			

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-606A	GLX-TPW-607			GLX-TPW-607A		GLX-TPW-608			GLX-TPW-608A	GLX-TPW-609			GLX-TPW-609A
						Sample Depth^:	0-5 ft	0-5 ft	0-2/0.6 ft	2-5/4.6 ft	0-5 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	02/08/2020 Field Dup	11/02/2019	11/02/2019	11/02/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019	02/08/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**															
VOCs																				
	Methylene chloride	mg/kg	0.1	NS	NS		NA	NA	0.0038 U	0.0039 U	NA	NA	NA	0.0035 U	0.0047 U	NA	NA	0.0034 U	0.0032 U	NA
	1,1-Dichloroethane	mg/kg	0.4	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Chloroform	mg/kg	0.2	NS	NS		NA	NA	0.0011 U	0.0012 U	NA	NA	NA	0.0011 U	0.0014 U	NA	NA	0.001 U	0.00096 U	NA
	Carbon tetrachloride	mg/kg	5	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,2-Dichloropropane	mg/kg	0.1	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Dibromochloromethane	mg/kg	0.005	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Tetrachloroethene	mg/kg	1	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Chlorobenzene	mg/kg	1	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Trichlorofluoromethane	mg/kg	1,000	NS	NS		NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	1,2-Dichloroethane	mg/kg	0.1	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,1,1-Trichloroethane	mg/kg	30	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Bromodichloromethane	mg/kg	0.1	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	1,1-Dichloropropene	mg/kg	0.01	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Bromoform	mg/kg	0.1	NS	NS		NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Benzene	mg/kg	2	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Toluene	mg/kg	30	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Ethylbenzene	mg/kg	40	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Chloromethane	mg/kg	100	NS	NS		NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	Bromomethane	mg/kg	0.5	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Vinyl chloride	mg/kg	0.7	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Chloroethane	mg/kg	100	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,1-Dichloroethene	mg/kg	3	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS		NA	NA	0.0011 U	0.0012 U	NA	NA	NA	0.0011 U	0.0014 U	NA	NA	0.001 U	0.00096 U	NA
	Trichloroethene	mg/kg	0.3	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Methyl tert butyl ether	mg/kg	0.1	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	p/m-Xylene	mg/kg	100	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	o-Xylene	mg/kg	100	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Xylenes (Total)	mg/kg	100	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Dibromomethane	mg/kg	500	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2,3-Trichloropropane	mg/kg	100	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Styrene	mg/kg	3	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS		NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	Acetone	mg/kg	6	NS	NS		NA	NA	**0.066**	**0.03**	NA	NA	NA	**0.02**	**0.053**	NA	NA	**0.07**	**0.092**	NA
	Carbon disulfide	mg/kg	100	NS	NS		NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	2-Butanone	mg/kg	4	NS	NS		NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS		NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	2-Hexanone	mg/kg	100	NS	NS		NA	NA	0.0075 U	0.0078 U	NA	NA	NA	0.0071 U	0.0094 U	NA	NA	0.0069 U	0.0064 U	NA
	Bromochloromethane	mg/kg	NS	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Tetrahydrofuran	mg/kg	500	NS	NS		NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	2,2-Dichloropropane	mg/kg	0.1	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2-Dibromoethane	mg/kg	0.1	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,3-Dichloropropane	mg/kg	500	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS		NA	NA	0.00038 U	0.00039 U	NA	NA	NA	0.00035 U	0.00047 U	NA	NA	0.00034 U	0.00032 U	NA
	Bromobenzene	mg/kg	100	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	n-Butylbenzene	mg/kg	100	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	sec-Butylbenzene	mg/kg	100	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	tert-Butylbenzene	mg/kg	100	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	o-Chlorotoluene	mg/kg	100	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	p-Chlorotoluene	mg/kg	100	NS	NS		NA	NA	0.0015 U	0.0016 U	NA	NA	NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS		NA	NA	0.0022 U	0.0024 U	NA	NA	NA	0.0021 U	0.0028 U	NA	NA	0.0021 U	0.0019 U	NA
	Hexachlorobutadiene	mg/kg	30	NS	NS		NA	NA	0.0030 U	0.0031 U	NA	NA	NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	Isopropylbenzene	mg/kg	1,000	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	p-Isopropyltoluene	mg/kg	100	NS	NS		NA	NA	0.00075 U	0.00078 U	NA	NA	NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-606A		GLX-TPW-607			GLX-TPW-607A			GLX-TPW-608			GLX-TPW-608A	GLX-TPW-609			GLX-TPW-609A
						Sample Depth^:	0-5 ft		0-5 ft	0-2/0.6 ft	2-5/4.6 ft	0-5 ft	0-5 ft		0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft
						Sample Date:	02/08/2020		10/20/2019	10/20/2019	10/20/2019	02/08/2020	02/08/2020 Field Dup		11/02/2019	11/02/2019	11/02/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019	02/08/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																	
	Naphthalene	mg/kg	4	NS	NS		NA		NA	0.0030 U	0.0031 U	NA	NA		NA	0.0028 U	0.0037 U	NA	NA	0.0027 U	0.0026 U	NA
	n-Propylbenzene	mg/kg	100	NS	NS		NA		NA	0.00075 U	0.00078 U	NA	NA		NA	0.00071 U	0.00094 U	NA	NA	0.00069 U	0.00064 U	NA
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Ethyl ether	mg/kg	100	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Isopropyl Ether	mg/kg	100	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS		NA		NA	0.0015 U	0.0016 U	NA	NA		NA	0.0014 U	0.0019 U	NA	NA	0.0014 U	0.0013 U	NA
	1,4-Dioxane	mg/kg	0.2	NS	NS		NA		NA	0.06 U	0.063 U	NA	NA		NA	0.057 U	0.075 U	NA	NA	0.055 U	0.051 U	NA
	Total VOCs	mg/kg	N/A	4	10		*NA*		*NA*	***0.066***	***0.030***	*NA*	*NA*		*NA*	***0.020***	***0.053***	*NA*	*NA*	***0.070***	***0.092***	*NA*
SVOCs																						
	Acenaphthene	mg/kg	4	NS	NS		**0.2**		NA	NA	NA	0.15 U	0.15 U		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Azobenzene	mg/kg	NS	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Fluoranthene	mg/kg	1,000	NS	NS		**1.7**		NA	NA	NA	**29**	**86**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		0.19 U		NA	NA	NA	0.21 U	0.2 U		NA	NA	NA	0.19 U	NA	NA	NA	0.19 U
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Hexachloroethane	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Isophorone	mg/kg	100	NS	NS		0.16 U		NA	NA	NA	0.17 U	0.17 U		NA	NA	NA	0.16 U	NA	NA	NA	0.16 U
	Naphthalene	mg/kg	4	NS	NS		**0.33**		NA	NA	NA	**0.3**	**0.92**		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Nitrobenzene	mg/kg	500	NS	NS		0.16 U		NA	NA	NA	0.17 U	0.17 U		NA	NA	NA	0.16 U	NA	NA	NA	0.16 U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Butyl benzyl phthalate	mg/kg	100	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Di-n-butylphthalate	mg/kg	50	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Diethyl phthalate	mg/kg	10	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Dimethyl phthalate	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Benzo(a)anthracene	mg/kg	7	NS	NS		**0.64**		NA	NA	NA	**16**	**48**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Benzo(a)pyrene	mg/kg	2	NS	NS		**0.64**		NA	NA	NA	**16**	**44**		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		**0.72**		NA	NA	NA	**17**	**50**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		**0.25**		NA	NA	NA	**4.9**	**16**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Chrysene	mg/kg	70	NS	NS		**0.57**		NA	NA	NA	**12**	**37**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Acenaphthylene	mg/kg	1	NS	NS		0.14 U		NA	NA	NA	**0.84**	**2.7**		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	Anthracene	mg/kg	1,000	NS	NS		**0.45**		NA	NA	NA	**2.2**	**9.7**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		**0.33**		NA	NA	NA	**6.1**	**20**		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	Fluorene	mg/kg	1,000	NS	NS		**0.23**		NA	NA	NA	0.19 U	**0.61**		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Phenanthrene	mg/kg	10	NS	NS		**1.9**		NA	NA	NA	**1.8**	**6.5**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		**0.074**		NA	NA	NA	**1.9**	**5.3**		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		**0.38**		NA	NA	NA	**7.7**	**23**		NA	NA	NA	0.14 U	NA	NA	NA	0.14 U
	Pyrene	mg/kg	1,000	NS	NS		**1.4**		NA	NA	NA	**24**	**73**		NA	NA	NA	0.11 U	NA	NA	NA	0.11 U
	Aniline	mg/kg	1,000	NS	NS		0.21 U		NA	NA	NA	0.23 U	0.22 U		NA	NA	NA	0.21 U	NA	NA	NA	0.21 U
	4-Chloroaniline	mg/kg	1	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	Dibenzofuran	mg/kg	100	NS	NS		**0.24**		NA	NA	NA	0.19 U	**0.23**		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		**0.16**		NA	NA	NA	0.08 U	**0.21**		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	Acetophenone	mg/kg	1,000	NS	NS		0.18 U		NA	NA	NA	0.19 U	0.18 U		NA	NA	NA	0.18 U	NA	NA	NA	0.18 U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2-Chlorophenol	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		0.074 U		NA	NA	NA	0.08 U	0.078 U		NA	NA	NA	0.075 U	NA	NA	NA	0.075 U
	2-Nitrophenol	mg/kg	100	NS	NS		0.38 U		NA	NA	NA	0.41 U	0.4 U		NA	NA	NA	0.39 U	NA	NA	NA	0.39 U
	4-Nitrophenol	mg/kg	100	NS	NS		0.25 U		NA	NA	NA	0.27 U	0.26 U		NA	NA	NA	0.25 U	NA	NA	NA	0.25 U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

					Sample Location:	**GLX-TPW-606A**		**GLX-TPW-607**						**GLX-TPW-607A**				**GLX-TPW-608**						**GLX-TPW-608A**		**GLX-TPW-609**						**GLX-TPW-609A**		
					Sample Depth^:	0-5 ft		0-5 ft		0-2/0.6 ft		2-5/4.6 ft		0-5 ft		0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		0-5 ft	
					Sample Date:	02/08/2020		10/20/2019		10/20/2019		10/20/2019		02/08/2020		02/08/2020		11/02/2019		11/02/2019		11/02/2019		02/08/2020		11/02/2019		11/02/2019		11/02/2019		02/08/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**											Field Dup																	
	2,4-Dinitrophenol	mg/kg	3	NS	NS	0.85	U	NA		NA		NA		0.92	U	0.89	U	NA		NA		NA		0.86	U	NA		NA		NA		0.86	U
	Pentachlorophenol	mg/kg	3	NS	NS	0.36	U	NA		NA		NA		0.38	U	0.37	U	NA		NA		NA		0.36	U	NA		NA		NA		0.36	U
	Phenol	mg/kg	1	NS	NS	0.18	U	NA		NA		NA		**0.21**		**0.5**		NA		NA		NA		0.18	U	NA		NA		NA		0.18	U
	2-Methylphenol	mg/kg	500	NS	NS	0.18	U	NA		NA		NA		0.19	U	0.18	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	0.26	U	NA		NA		NA		0.28	U	**0.33**		NA		NA		NA		0.26	U	NA		NA		NA		0.26	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	0.18	U	NA		NA		NA		0.19	U	0.18	U	NA		NA		NA		0.18	U	NA		NA		NA		0.18	U
	Pyridine	mg/kg	500	NS	NS	0.19	U	NA		NA		NA		0.21	U	0.2	U	NA		NA		NA		0.19	U	NA		NA		NA		0.19	U
	Total SVOCs	mg/kg	N/A	100	100	***10.2***		*NA*		*NA*		*NA*		***140***		***424***		*NA*		*NA*		*NA*		*ND*		*NA*		*NA*		*NA*		*ND*	
Pesticides																																	
	Delta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Lindane	mg/kg	0.003	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Alpha-BHC	mg/kg	50	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Beta-BHC	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Heptachlor	mg/kg	0.3	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Aldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endrin	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endrin ketone	mg/kg	10	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dieldrin	mg/kg	0.08	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	4,4'-DDE	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	4,4'-DDD	mg/kg	8	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	4,4'-DDT	mg/kg	6	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endosulfan I	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endosulfan II	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Methoxychlor	mg/kg	200	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Chlordane	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Herbicides																																	
	MCPP	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	MCPA	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dalapon	mg/kg	1,000	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dicamba	mg/kg	500	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Dichloroprop	mg/kg	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4-D	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4-DB	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4,5-T	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
PCB Aroclors																																	
	Aroclor-1016	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
	Aroclor-1221	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
	Aroclor-1232	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
	Aroclor-1242	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
	Aroclor-1248	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
	Aroclor-1254	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
	Aroclor-1260	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
	Aroclor-1262	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
	Aroclor-1268	mg/kg	1	NS	NS	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
	PCBs, Total	mg/kg	1	2	2	NA		0.035	U	NA		NA		NA		NA		0.0362	U	NA		NA		NA		0.0351	U	NA		NA		NA	
TPH																																	
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	**52.7**		NA		NA		NA		**341**		**548**		NA		NA		NA		34.7	U	NA		NA		NA		35.9	U
Metals, total																																	
	Antimony	mg/kg	20	NS	NS	NA		2.09	U	NA		NA		NA		NA		2.18	U	NA		NA		NA		2.08	U	NA		NA		NA	
	Arsenic	mg/kg	20	40	40	NA		**8.05**		NA		NA		NA		NA		**4.94**		NA		NA		NA		**5.05**		NA		NA		NA	
	Barium	mg/kg	1,000	NS	NS	NA		**23.7**		NA		NA		NA		NA		**17.0**		NA		NA		NA		**23.3**		NA		NA		NA	
	Beryllium	mg/kg	90	NS	NS	NA		0.209	U	NA		NA		NA		NA		0.218	U	NA		NA		NA		0.208	U	NA		NA		NA	
	Cadmium	mg/kg	70	30	80	NA		0.418	U	NA		NA		NA		NA		0.435	U	NA		NA		NA		**0.429**		NA		NA		NA	
	Chromium	mg/kg	100	1,000	1,000	NA		**11.8**		NA		NA		NA		NA		**10.6**		NA		NA		NA		**15.3**		NA		NA		NA	
	Lead	mg/kg	200	1,000	2,000	NA		**38.0**		NA		NA		NA		NA		**7.93**		NA		NA		NA		**34.1**		NA		NA		NA	
	Mercury	mg/kg	20	10	10	**0.127**		NA		NA		NA		0.079	U	0.091	U	NA		NA		NA		0.079	U	NA		NA		NA		0.077	U
	Nickel	mg/kg	600	NS	NS	NA		**9.83**		NA		NA		NA		NA		**6.78**		NA		NA		NA		**9.54**		NA		NA		NA	
	Selenium	mg/kg	400	NS	NS	NA		2.09	U	NA		NA		NA		NA		2.18	U	NA		NA		NA		2.08	U	NA		NA		NA	
	Silver	mg/kg	100	NS	NS	NA		0.418	U	NA		NA		NA		NA		0.435	U	NA		NA		NA		0.416	U	NA		NA		NA	
	Thallium	mg/kg	8	NS	NS	NA		2.09	U	NA		NA		NA		NA		2.18	U	NA		NA		NA		2.08	U	NA		NA		NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-606A	GLX-TPW-607			GLX-TPW-607A		GLX-TPW-608			GLX-TPW-608A	GLX-TPW-609			GLX-TPW-609A
						Sample Depth^:	0-5 ft	0-5 ft	0-2/0.6 ft	2-5/4.6 ft	0-5 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	0-5 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	02/08/2020	11/02/2019	11/02/2019	11/02/2019	02/08/2020	11/02/2019	11/02/2019	11/02/2019	02/08/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**							Field Dup								
	Vanadium	mg/kg	400	NS	NS		NA	**21.9**	NA	NA	NA	NA	**12.4**	NA	NA	NA	**20.3**	NA	NA	NA
	Zinc	mg/kg	1,000	NS	NS		NA	**99.7**	NA	NA	NA	NA	**26.9**	NA	NA	NA	**40.6**	NA	NA	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLX-TPW-606A**		**GLX-TPW-607**				**GLX-TPW-607A**				**GLX-TPW-608**				**GLX-TPW-608A**		**GLX-TPW-609**				**GLX-TPW-609A**	
		Sample Depth^:				0-5 ft		0-5 ft		0-2/0.6 ft		2-5/4.6 ft		0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		0-5 ft	
		Sample Date:				02/08/2020		10/20/2019		10/20/2019		10/20/2019		02/08/2020		02/08/2020 Field Dup		11/02/2019		11/02/2019		11/02/2019		02/08/2020		11/02/2019		11/02/2019		11/02/2019		02/08/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																								
Metals, TCLP																													
	Lead	mg/L	5*	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
General Chemistry																													
	Ignitability	none	NS	NS	NS	NI		NA		NA		NA		NI		NI		NA		NA		NI		NA		NA		NA		NI	
	Specific conductance	umhos/cm	NS	4,000	8,000	**10**		NA		NA		NA		**12**		**13**		NA		NA		NA		10	U	NA		NA		NA		10	U
	pH	su	NS	>2 <12.5	>2 <12.5	**7.6**		NA		**7.8**		**6.9**		**6.8**		**7.2**		NA		**7.0**		**6.3**		**7.5**		NA		**7.2**		**7.1**		**7.5**	
	Reactive Cyanide	mg/kg	NS	< 250	< 250	10	U	NA		NA		NA		10	U	10	U	NA		NA		NA		10	U	NA		NA		NA		10	U
	Reactive Sulfide	mg/kg	NS	< 500	< 500	10	U	NA		NA		NA		10	U	10	U	NA		NA		NA		10	U	NA		NA		NA		10	U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-610				GLX-TPW-610A	GLX-TPW-611			GLX-TPW-611A	GLX-TPW-612			GLX-TPW-612A	GLX-TPW-613		
		Sample Depth^:				0-8 ft	0-2/1 ft	2-5/3 ft	5-8/7 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft
		Sample Date:				11/02/2019	11/02/2019	11/02/2019	11/02/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																
VOCs																					
	Methylene chloride	mg/kg	0.1	NS	NS	NA	0.0038 U	0.0024 U	0.0030 U	NA	NA	0.0049 U	0.0037 U	NA	NA	0.0042 U	0.0038 U	NA	NA	0.0034 U	0.0049 U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Chloroform	mg/kg	0.2	NS	NS	NA	0.0011 U	0.00071 U	0.00091 U	NA	NA	0.0015 U	0.0011 U	NA	NA	0.0013 U	0.0011 U	NA	NA	0.0010 U	0.0015 U
	Carbon tetrachloride	mg/kg	5	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Dibromochloromethane	mg/kg	0.005	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Tetrachloroethene	mg/kg	1	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Chlorobenzene	mg/kg	1	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	0.0039 U	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Bromodichloromethane	mg/kg	0.1	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Bromoform	mg/kg	0.1	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	0.0039 U	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Benzene	mg/kg	2	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Toluene	mg/kg	30	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Ethylbenzene	mg/kg	40	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Chloromethane	mg/kg	100	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	0.0039 U	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	Bromomethane	mg/kg	0.5	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	Vinyl chloride	mg/kg	0.7	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Chloroethane	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,1-Dichloroethene	mg/kg	3	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	NA	0.0011 U	0.00071 U	0.00091 U	NA	NA	0.0015 U	0.0011 U	NA	NA	0.0013 U	0.0011 U	NA	NA	0.0010 U	0.0015 U
	Trichloroethene	mg/kg	0.3	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	p/m-Xylene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	o-Xylene	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Xylenes (Total)	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Dibromomethane	mg/kg	500	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	Styrene	mg/kg	3	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	NA	0.0076 U	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	Acetone	mg/kg	6	NS	NS	NA	**0.18**	**0.018**	**0.035**	NA	NA	**0.091**	**0.028**	NA	NA	**0.08**	**0.059**	NA	NA	**0.028**	**0.032**
	Carbon disulfide	mg/kg	100	NS	NS	NA	0.0076 U	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	2-Butanone	mg/kg	4	NS	NS	NA	**0.018**	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	NA	0.0076 U	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	2-Hexanone	mg/kg	100	NS	NS	NA	0.0076 U	0.0048 U	0.0061 U	NA	NA	0.0098 U	0.0074 U	NA	NA	0.0084 U	0.0076 U	NA	NA	0.0068 U	0.0098 U
	Bromochloromethane	mg/kg	NS	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	Tetrahydrofuran	mg/kg	500	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	**0.0039**	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	1,3-Dichloropropane	mg/kg	500	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	NA	0.00038 U	0.00024 U	0.00030 U	NA	NA	0.00049 U	0.00037 U	NA	NA	0.00042 U	0.00038 U	NA	NA	0.00034 U	0.00049 U
	Bromobenzene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	n-Butylbenzene	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	sec-Butylbenzene	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	tert-Butylbenzene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	o-Chlorotoluene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	p-Chlorotoluene	mg/kg	100	NS	NS	NA	0.0015 U	0.00095 U	0.0012 U	NA	NA	0.0020 U	0.0015 U	NA	NA	0.0017 U	0.0015 U	NA	NA	0.0014 U	0.0020 U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	NA	0.0023 U	0.0014 U	0.0018 U	NA	NA	0.0029 U	0.0022 U	NA	NA	0.0025 U	0.0023 U	NA	NA	0.0020 U	0.0029 U
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA	0.003 U	0.0019 U	0.0024 U	NA	NA	0.0039 U	0.0030 U	NA	NA	0.0034 U	0.0030 U	NA	NA	0.0027 U	0.0039 U
	Isopropylbenzene	mg/kg	1,000	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U
	p-Isopropyltoluene	mg/kg	100	NS	NS	NA	0.00076 U	0.00048 U	0.00061 U	NA	NA	0.00098 U	0.00074 U	NA	NA	0.00084 U	0.00076 U	NA	NA	0.00068 U	0.00098 U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-610								GLX-TPW-610A		GLX-TPW-611								GLX-TPW-611A		GLX-TPW-612								GLX-TPW-612A		GLX-TPW-613					
		Sample Depth^:				0-8 ft		0-2/1 ft		2-5/3 ft		5-8/7 ft		0-5 ft		0-5 ft		0-2/1.5 ft		2-5/4 ft				0-5 ft		0-5 ft		0-2/1.5 ft		2-5/4 ft				0-5 ft		0-5 ft		0-2/1.5 ft		2-5/4 ft	
		Sample Date:				11/02/2019		11/02/2019		11/02/2019		11/02/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019				02/08/2020		10/20/2019		10/20/2019		10/20/2019				02/08/2020		10/20/2019		10/20/2019		10/20/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																																				
	Naphthalene	mg/kg	4	NS	NS	NA		0.003	U	0.0019	U	0.0024	U	NA		NA		0.0039	U	0.0030	U			NA		NA		0.0034	U	0.0030	U			NA		NA		0.0027	U	0.0039	U
	n-Propylbenzene	mg/kg	100	NS	NS	NA		0.00076	U	0.00048	U	0.00061	U	NA		NA		0.00098	U	0.00074	U			NA		NA		0.00084	U	0.00076	U			NA		NA		0.00068	U	0.00098	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U			NA		NA		0.0017	U	0.0015	U			NA		NA		0.0014	U	0.0020	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U			NA		NA		0.0017	U	0.0015	U			NA		NA		0.0014	U	0.0020	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U			NA		NA		0.0017	U	0.0015	U			NA		NA		0.0014	U	0.0020	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U			NA		NA		0.0017	U	0.0015	U			NA		NA		0.0014	U	0.0020	U
	Ethyl ether	mg/kg	100	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U			NA		NA		0.0017	U	0.0015	U			NA		NA		0.0014	U	0.0020	U
	Isopropyl Ether	mg/kg	100	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U			NA		NA		0.0017	U	0.0015	U			NA		NA		0.0014	U	0.0020	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U			NA		NA		0.0017	U	0.0015	U			NA		NA		0.0014	U	0.0020	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	NA		0.0015	U	0.00095	U	0.0012	U	NA		NA		0.0020	U	0.0015	U			NA		NA		0.0017	U	0.0015	U			NA		NA		0.0014	U	0.0020	U
	1,4-Dioxane	mg/kg	0.2	NS	NS	NA		0.061	U	0.038	U	0.049	U	NA		NA		0.078	U	0.06	U			NA		NA		0.067	U	0.06	U			NA		NA		0.054	U	0.078	U
	Total VOCs	mg/kg	N/A	4	10	*NA*		***0.198***		***0.018***		***0.035***		*NA*		*NA*		***0.095***		***0.028***				*NA*		*NA*		***0.080***		***0.059***				*NA*		*NA*		***0.028***		***0.032***	
SVOCs																																									
	Acenaphthene	mg/kg	4	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA				0.14	U	NA		NA		NA				0.14	U	NA		NA		NA	
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	2-Chloronaphthalene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	2,6-Dinitrotoluene	mg/kg	100	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Azobenzene	mg/kg	NS	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Fluoranthene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA				**0.14**		NA		NA		NA				0.11	U	NA		NA		NA	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS	NA		NA		NA		NA		0.19	U	NA		NA		NA				0.19	U	NA		NA		NA				0.19	U	NA		NA		NA	
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Hexachloroethane	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	Isophorone	mg/kg	100	NS	NS	NA		NA		NA		NA		0.16	U	NA		NA		NA				0.16	U	NA		NA		NA				0.16	U	NA		NA		NA	
	Naphthalene	mg/kg	4	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Nitrobenzene	mg/kg	500	NS	NS	NA		NA		NA		NA		0.16	U	NA		NA		NA				0.16	U	NA		NA		NA				0.16	U	NA		NA		NA	
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Butyl benzyl phthalate	mg/kg	100	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Di-n-butylphthalate	mg/kg	50	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Di-n-octylphthalate	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Diethyl phthalate	mg/kg	10	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Dimethyl phthalate	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	Benzo(a)anthracene	mg/kg	7	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA				0.11	U	NA		NA		NA				0.11	U	NA		NA		NA	
	Benzo(a)pyrene	mg/kg	2	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA				0.14	U	NA		NA		NA				0.14	U	NA		NA		NA	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA				0.11	U	NA		NA		NA				0.11	U	NA		NA		NA	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA				0.11	U	NA		NA		NA				0.11	U	NA		NA		NA	
	Chrysene	mg/kg	70	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA				0.11	U	NA		NA		NA				0.11	U	NA		NA		NA	
	Acenaphthylene	mg/kg	1	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA				0.14	U	NA		NA		NA				0.14	U	NA		NA		NA	
	Anthracene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA				0.11	U	NA		NA		NA				0.11	U	NA		NA		NA	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA				0.14	U	NA		NA		NA				0.14	U	NA		NA		NA	
	Fluorene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Phenanthrene	mg/kg	10	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA				0.11	U	NA		NA		NA				0.11	U	NA		NA		NA	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS	NA		NA		NA		NA		0.14	U	NA		NA		NA				0.14	U	NA		NA		NA				0.14	U	NA		NA		NA	
	Pyrene	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.1	U	NA		NA		NA				**0.11**		NA		NA		NA				0.11	U	NA		NA		NA	
	Aniline	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.21	U	NA		NA		NA				0.21	U	NA		NA		NA				0.21	U	NA		NA		NA	
	4-Chloroaniline	mg/kg	1	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	Dibenzofuran	mg/kg	100	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	2-Methylnaphthalene	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	Acetophenone	mg/kg	1,000	NS	NS	NA		NA		NA		NA		0.17	U	NA		NA		NA				0.18	U	NA		NA		NA				0.18	U	NA		NA		NA	
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	2-Chlorophenol	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS	NA		NA		NA		NA		0.073	U	NA		NA		NA				0.074	U	NA		NA		NA				0.075	U	NA		NA		NA	
	2-Nitrophenol	mg/kg	100	NS	NS	NA		NA		NA		NA		0.38	U	NA		NA		NA				0.38	U	NA		NA		NA				0.38	U	NA		NA		NA	
	4-Nitrophenol	mg/kg	100	NS	NS	NA		NA		NA		NA		0.24	U	NA		NA		NA				0.25	U	NA		NA		NA				0.25	U	NA		NA		NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-610				GLX-TPW-610A		GLX-TPW-611				GLX-TPW-611A		GLX-TPW-612				GLX-TPW-612A		GLX-TPW-613			
		Sample Depth^:				0-8 ft	0-2/1 ft	2-5/3 ft	5-8/7 ft	0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft		0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft		0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft	
		Sample Date:				11/02/2019	11/02/2019	11/02/2019	11/02/2019	02/08/2020		10/20/2019	10/20/2019	10/20/2019		02/08/2020		10/20/2019	10/20/2019	10/20/2019		02/08/2020		10/20/2019	10/20/2019	10/20/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																						
	2,4-Dinitrophenol	mg/kg	3	NS	NS	NA	NA	NA	NA	0.84	U	NA	NA	NA		0.85	U	NA	NA	NA		0.85	U	NA	NA	NA	
	Pentachlorophenol	mg/kg	3	NS	NS	NA	NA	NA	NA	0.35	U	NA	NA	NA		0.35	U	NA	NA	NA		0.36	U	NA	NA	NA	
	Phenol	mg/kg	1	NS	NS	NA	NA	NA	NA	0.17	U	NA	NA	NA		0.18	U	NA	NA	NA		0.18	U	NA	NA	NA	
	2-Methylphenol	mg/kg	500	NS	NS	NA	NA	NA	NA	0.17	U	NA	NA	NA		0.18	U	NA	NA	NA		0.18	U	NA	NA	NA	
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	NA	NA	NA	NA	0.25	U	NA	NA	NA		0.26	U	NA	NA	NA		0.26	U	NA	NA	NA	
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	NA	NA	NA	NA	0.17	U	NA	NA	NA		0.18	U	NA	NA	NA		0.18	U	NA	NA	NA	
	Pyridine	mg/kg	500	NS	NS	NA	NA	NA	NA	0.19	U	NA	NA	NA		0.19	U	NA	NA	NA		0.19	U	NA	NA	NA	
	Total SVOCs	mg/kg	N/A	100	100	*NA*	*NA*	*NA*	*NA*	*ND*		*NA*	*NA*	*NA*		***0.250***		*NA*	*NA*	*NA*		*ND*		*NA*	*NA*	*NA*	
Pesticides																											
	Delta-BHC	mg/kg	10	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Lindane	mg/kg	0.003	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Alpha-BHC	mg/kg	50	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Beta-BHC	mg/kg	10	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Heptachlor	mg/kg	0.3	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Aldrin	mg/kg	0.08	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Endrin	mg/kg	10	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Endrin ketone	mg/kg	10	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Dieldrin	mg/kg	0.08	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	4,4'-DDE	mg/kg	6	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	4,4'-DDD	mg/kg	8	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	4,4'-DDT	mg/kg	6	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Endosulfan I	mg/kg	0.5	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Endosulfan II	mg/kg	0.5	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Methoxychlor	mg/kg	200	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Chlordane	mg/kg	0.7	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
Herbicides																											
	MCPP	mg/kg	NS	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	MCPA	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Dalapon	mg/kg	1,000	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Dicamba	mg/kg	500	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	Dichloroprop	mg/kg	NS	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	2,4-D	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	2,4-DB	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	2,4,5-T	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA	NA	NA	NA	NA		NA	NA	NA		NA		NA	NA	NA		NA		NA	NA	NA	
PCB Aroclors																											
	Aroclor-1016	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
	Aroclor-1221	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
	Aroclor-1232	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
	Aroclor-1242	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
	Aroclor-1248	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
	Aroclor-1254	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
	Aroclor-1260	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
	Aroclor-1262	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
	Aroclor-1268	mg/kg	1	NS	NS	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
	PCBs, Total	mg/kg	1	2	2	0.0350	U	NA	NA	NA		NA	0.036	U	NA	NA		0.035	U	NA	NA	NA		0.037	U	NA	
TPH																											
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	NA		NA	NA	NA		34.1	U	NA	NA			35.1	U	NA		NA	NA		35.3	U	NA	NA		NA	
Metals, total																											
	Antimony	mg/kg	20	NS	NS	2.12	U	NA	NA	NA		NA	2.17	U	NA	NA		2.07	U	NA	NA	NA		2.15	U	NA	
	Arsenic	mg/kg	20	40	40	**3.85**		NA	NA	NA		NA	**3.56**		NA	NA		**2.90**		NA	NA	NA		**2.18**		NA	
	Barium	mg/kg	1,000	NS	NS	**20.4**		NA	NA	NA		NA	**29.6**		NA	NA		**14.8**		NA	NA	NA		**25.6**		NA	
	Beryllium	mg/kg	90	NS	NS	0.212	U	NA	NA	NA		NA	0.217	U	NA	NA		0.207	U	NA	NA	NA		0.215	U	NA	
	Cadmium	mg/kg	70	30	80	0.425	U	NA	NA	NA		NA	0.433	U	NA	NA		0.414	U	NA	NA	NA		0.431	U	NA	
	Chromium	mg/kg	100	1,000	1,000	**12.7**		NA	NA	NA		NA	**11.3**		NA	NA		**16.6**		NA	NA	NA		**13.8**		NA	
	Lead	mg/kg	200	1,000	2,000	**17.9**		NA	NA	NA		NA	**58.6**		NA	NA		**8.80**		NA	NA	NA		**9.52**		NA	
	Mercury	mg/kg	20	10	10	NA		NA	NA	NA		0.078	U	NA	NA			0.078	U	NA		NA	NA		0.079	U	NA	NA		NA	
	Nickel	mg/kg	600	NS	NS	**7.43**		NA	NA	NA		NA	**9.82**		NA	NA		**9.84**		NA	NA	NA		**10.0**		NA	
	Selenium	mg/kg	400	NS	NS	2.12	U	NA	NA	NA		NA	2.17	U	NA	NA		2.07	U	NA	NA	NA		2.15	U	NA	
	Silver	mg/kg	100	NS	NS	0.425	U	NA	NA	NA		NA	0.433	U	NA	NA		0.414	U	NA	NA	NA		0.431	U	NA	
	Thallium	mg/kg	8	NS	NS	2.12	U	NA	NA	NA		NA	2.17	U	NA	NA		2.07	U	NA	NA	NA		2.15	U	NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-610				GLX-TPW-610A	GLX-TPW-611			GLX-TPW-611A	GLX-TPW-612			GLX-TPW-612A	GLX-TPW-613		
						Sample Depth^:	0-8 ft	0-2/1 ft	2-5/3 ft	5-8/7 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft	0-5 ft	0-5 ft	0-2/1.5 ft	2-5/4 ft
						Sample Date:	11/02/2019	11/02/2019	11/02/2019	11/02/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																	
	Vanadium	mg/kg	400	NS	NS		**20.5**	NA	NA	NA	NA	NA	**23.6**	NA	NA	**21.1**	NA	NA	NA	NA	**20.5**	NA
	Zinc	mg/kg	1,000	NS	NS		**35.6**	NA	NA	NA	NA	NA	**51.7**	NA	NA	**36.1**	NA	NA	NA	NA	**45.8**	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:		GLX-TPW-610				GLX-TPW-610A		GLX-TPW-611				GLX-TPW-611A		GLX-TPW-612				GLX-TPW-612A		GLX-TPW-613			
		Sample Depth^:		0-8 ft	0-2/1 ft	2-5/3 ft	5-8/7 ft	0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft		0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft		0-5 ft		0-5 ft	0-2/1.5 ft	2-5/4 ft	
		Sample Date:		11/02/2019	11/02/2019	11/02/2019	11/02/2019	02/08/2020		10/20/2019	10/20/2019	10/20/2019		02/08/2020		10/20/2019	10/20/2019	10/20/2019		02/08/2020		10/20/2019	10/20/2019	10/20/2019	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**																				
Metals, TCLP																									
	Lead	mg/L	5*	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
General Chemistry																									
	Ignitability	none	NS	NS	NS	NA		NA		NA		NA		NI		NA		NA		NI		NA		NA	
	Specific conductance	umhos/cm	NS	4,000	8,000	NA		NA		NA		NA		10	U	NA		NA		10	U	NA		NA	
	pH	su	NS	>2 <12.5	>2 <12.5	NA		**7.2**		**7.5**		**6.3**		**7.3**		NA		**7.0**		**6.5**		**6.5**		**4.0**		**6.6**		**7.3**		NA		**7.1**		**6.1**	
	Reactive Cyanide	mg/kg	NS	< 250	< 250	NA		NA		NA		NA		10	U	NA		NA		NA		10	U	NA		NA	
	Reactive Sulfide	mg/kg	NS	< 500	< 500	NA		NA		NA		NA		10	U	NA		NA		NA		10	U	NA		NA	

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-613A	GLX-TPW-614				GLX-TPW-614A	GLX-TPW-615						WASH-C15DS		WASH-NABUTDS	
		Sample Depth^:				0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	4 ft	0-5 ft	0-15 ft	1 ft	2-5/4 ft	5-8/7 ft	8-12/10 ft	12-15/13 ft	N/A	5 ft	N/A	3 ft
		Sample Date:				02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	03/19/2020	03/19/2020	03/20/2020	03/20/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**					Field Dup											
VOCs																					
	Methylene chloride	mg/kg	0.1	NS	NS	NA	NA	0.0043 U	0.0035 U	0.0039 U	NA	NA	0.0041 U	0.0033 U	0.0036 U	0.0037 U	0.0034 U	NA	0.0038 U	NA	0.0041 U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Chloroform	mg/kg	0.2	NS	NS	NA	NA	0.0013 U	0.0010 U	0.0012 U	NA	NA	0.0012 U	0.00099 U	0.0011 U	0.0011 U	0.0010 U	NA	0.0012 U	NA	0.0012 U
	Carbon tetrachloride	mg/kg	5	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Dibromochloromethane	mg/kg	0.005	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Tetrachloroethene	mg/kg	1	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	**0.0033**	NA	**0.0062**
	Chlorobenzene	mg/kg	1	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Bromodichloromethane	mg/kg	0.1	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	1,1-Dichloropropene	mg/kg	0.01	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Bromoform	mg/kg	0.1	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Benzene	mg/kg	2	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Toluene	mg/kg	30	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Ethylbenzene	mg/kg	40	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Chloromethane	mg/kg	100	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	Bromomethane	mg/kg	0.5	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Vinyl chloride	mg/kg	0.7	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Chloroethane	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,1-Dichloroethene	mg/kg	3	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS	NA	NA	0.0013 U	0.0010 U	0.0012 U	NA	NA	0.0012 U	0.00099 U	0.0011 U	0.0011 U	0.0010 U	NA	0.0012 U	NA	0.0012 U
	Trichloroethene	mg/kg	0.3	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	p/m-Xylene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	o-Xylene	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Xylenes (Total)	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Dibromomethane	mg/kg	500	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Styrene	mg/kg	3	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	Acetone	mg/kg	6	NS	NS	NA	NA	**0.066**	0.017 U	**0.052**	NA	NA	0.02 U	0.016 U	**0.036**	**0.062**	**0.021**	NA	**0.13**	NA	**0.021**
	Carbon disulfide	mg/kg	100	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	2-Butanone	mg/kg	4	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	2-Hexanone	mg/kg	100	NS	NS	NA	NA	0.0085 U	0.0070 U	0.0078 U	NA	NA	0.0082 U	0.0066 U	0.0071 U	0.0075 U	0.0067 U	NA	0.0077 U	NA	0.0082 U
	Bromochloromethane	mg/kg	NS	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Tetrahydrofuran	mg/kg	500	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	2,2-Dichloropropane	mg/kg	0.1	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,3-Dichloropropane	mg/kg	500	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS	NA	NA	0.00043 U	0.00035 U	0.00039 U	NA	NA	0.00041 U	0.00033 U	0.00036 U	0.00037 U	0.00034 U	NA	0.00038 U	NA	0.00041 U
	Bromobenzene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	n-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	sec-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	tert-Butylbenzene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	o-Chlorotoluene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	p-Chlorotoluene	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS	NA	NA	0.0026 U	0.0021 U	0.0023 U	NA	NA	0.0024 U	0.0020 U	0.0021 U	0.0022 U	0.0020 U	NA	0.0023 U	NA	0.0024 U
	Hexachlorobutadiene	mg/kg	30	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	Isopropylbenzene	mg/kg	1,000	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	p-Isopropyltoluene	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-613A		GLX-TPW-614					GLX-TPW-614A		GLX-TPW-615						WASH-C15DS		WASH-NABUTDS	
		Sample Depth^:				0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	4 ft	0-5 ft	0-15 ft	1 ft	2-5/4 ft	5-8/7 ft	8-12/10 ft	12-15/13 ft	N/A	5 ft	N/A	3 ft
		Sample Date:				02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	03/19/2020	03/19/2020	03/20/2020	03/20/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**					Field Dup											
	Naphthalene	mg/kg	4	NS	NS	NA	NA	0.0034 U	0.0028 U	0.0031 U	NA	NA	0.0033 U	0.0026 U	0.0028 U	0.0030 U	0.0027 U	NA	0.0031 U	NA	0.0033 U
	n-Propylbenzene	mg/kg	100	NS	NS	NA	NA	0.00085 U	0.00070 U	0.00078 U	NA	NA	0.00082 U	0.00066 U	0.00071 U	0.00075 U	0.00067 U	NA	0.00077 U	NA	0.00082 U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Ethyl ether	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Isopropyl Ether	mg/kg	100	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	NA	NA	0.0017 U	0.0014 U	0.0016 U	NA	NA	0.0016 U	0.0013 U	0.0014 U	0.0015 U	0.0013 U	NA	0.0015 U	NA	0.0016 U
	1,4-Dioxane	mg/kg	0.2	NS	NS	NA	NA	0.068 U	0.056 U	0.062 U	NA	NA	0.065 U	0.053 U	0.057 U	0.06 U	0.054 U	NA	0.062 U	NA	0.065 U
	Total VOCs	mg/kg	N/A	4	10	*NA*	*NA*	***0.066***	*ND*	***0.052***	*NA*	*NA*	*ND*	*ND*	***0.036***	***0.062***	***0.021***	*NA*	***0.133***	*NA*	***0.0272***
SVOCs																					
	Acenaphthene	mg/kg	4	NS	NS	0.14 U	NA	NA	NA	NA	0.14 U	NA	NA	NA	NA	NA	NA	0.15 U	NA	0.15 U	NA
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Hexachlorobenzene	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	2-Chloronaphthalene	mg/kg	1,000	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	1,2-Dichlorobenzene	mg/kg	9	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	1,3-Dichlorobenzene	mg/kg	3	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	2,6-Dinitrotoluene	mg/kg	100	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Azobenzene	mg/kg	NS	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Fluoranthene	mg/kg	1,000	NS	NS	**0.14**	NA	NA	NA	NA	**0.12**	NA	NA	NA	NA	NA	NA	**0.53**	NA	**0.7**	NA
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS	0.19 U	NA	NA	NA	NA	0.19 U	NA	NA	NA	NA	NA	NA	0.2 U	NA	0.21 U	NA
	Hexachlorobutadiene	mg/kg	30	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Hexachloroethane	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	Isophorone	mg/kg	100	NS	NS	0.16 U	NA	NA	NA	NA	0.16 U	NA	NA	NA	NA	NA	NA	0.16 U	NA	0.17 U	NA
	Naphthalene	mg/kg	4	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Nitrobenzene	mg/kg	500	NS	NS	0.16 U	NA	NA	NA	NA	0.16 U	NA	NA	NA	NA	NA	NA	0.16 U	NA	0.17 U	NA
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Butyl benzyl phthalate	mg/kg	100	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Di-n-butylphthalate	mg/kg	50	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Di-n-octylphthalate	mg/kg	1,000	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Diethyl phthalate	mg/kg	10	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Dimethyl phthalate	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	Benzo(a)anthracene	mg/kg	7	NS	NS	0.1 U	NA	NA	NA	NA	0.11 U	NA	NA	NA	NA	NA	NA	**0.31**	NA	**0.42**	NA
	Benzo(a)pyrene	mg/kg	2	NS	NS	0.14 U	NA	NA	NA	NA	0.14 U	NA	NA	NA	NA	NA	NA	**0.27**	NA	**0.45**	NA
	Benzo(b)fluoranthene	mg/kg	7	NS	NS	**0.11**	NA	NA	NA	NA	0.11 U	NA	NA	NA	NA	NA	NA	**0.41**	NA	**0.71**	NA
	Benzo(k)fluoranthene	mg/kg	70	NS	NS	0.1 U	NA	NA	NA	NA	0.11 U	NA	NA	NA	NA	NA	NA	**0.13**	NA	**0.19**	NA
	Chrysene	mg/kg	70	NS	NS	0.1 U	NA	NA	NA	NA	0.11 U	NA	NA	NA	NA	NA	NA	**0.36**	NA	**0.46**	NA
	Acenaphthylene	mg/kg	1	NS	NS	0.14 U	NA	NA	NA	NA	0.14 U	NA	NA	NA	NA	NA	NA	0.15 U	NA	0.15 U	NA
	Anthracene	mg/kg	1,000	NS	NS	0.1 U	NA	NA	NA	NA	0.11 U	NA	NA	NA	NA	NA	NA	0.11 U	NA	**0.12**	NA
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS	0.14 U	NA	NA	NA	NA	0.14 U	NA	NA	NA	NA	NA	NA	**0.15**	NA	**0.24**	NA
	Fluorene	mg/kg	1,000	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Phenanthrene	mg/kg	10	NS	NS	0.1 U	NA	NA	NA	NA	0.11 U	NA	NA	NA	NA	NA	NA	**0.3**	NA	**0.31**	NA
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS	0.14 U	NA	NA	NA	NA	0.14 U	NA	NA	NA	NA	NA	NA	**0.17**	NA	**0.26**	NA
	Pyrene	mg/kg	1,000	NS	NS	**0.12**	NA	NA	NA	NA	0.11 U	NA	NA	NA	NA	NA	NA	**0.49**	NA	**0.74**	NA
	Aniline	mg/kg	1,000	NS	NS	0.21 U	NA	NA	NA	NA	0.21 U	NA	NA	NA	NA	NA	NA	0.22 U	NA	0.23 U	NA
	4-Chloroaniline	mg/kg	1	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	Dibenzofuran	mg/kg	100	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	2-Methylnaphthalene	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	Acetophenone	mg/kg	1,000	NS	NS	0.17 U	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	NA	0.18 U	NA	0.19 U	NA
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	2-Chlorophenol	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS	0.073 U	NA	NA	NA	NA	0.075 U	NA	NA	NA	NA	NA	NA	0.077 U	NA	0.081 U	NA
	2-Nitrophenol	mg/kg	100	NS	NS	0.38 U	NA	NA	NA	NA	0.38 U	NA	NA	NA	NA	NA	NA	0.4 U	NA	0.41 U	NA
	4-Nitrophenol	mg/kg	100	NS	NS	0.24 U	NA	NA	NA	NA	0.25 U	NA	NA	NA	NA	NA	NA	0.26 U	NA	0.27 U	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				GLX-TPW-613A		GLX-TPW-614					GLX-TPW-614A		GLX-TPW-615						WASH-C15DS			WASH-NABUTDS			
		Sample Depth^:				0-5 ft		0-5 ft	0-2/1 ft	2-5/4 ft	4 ft		0-5 ft		0-15 ft	1 ft	2-5/4 ft	5-8/7 ft	8-12/10 ft	12-15/13 ft	N/A		5 ft	N/A		3 ft	
		Sample Date:				02/08/2020		10/20/2019	10/20/2019	10/20/2019	10/20/2019		02/08/2020		10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	03/19/2020		03/19/2020	03/20/2020		03/20/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**						Field Dup																
	2,4-Dinitrophenol	mg/kg	3	NS	NS	0.84	U	NA	NA	NA	NA		0.86	U	NA	NA	NA	NA	NA	NA	0.88	U	NA	0.92	U	NA	
	Pentachlorophenol	mg/kg	3	NS	NS	0.35	U	NA	NA	NA	NA		0.36	U	NA	NA	NA	NA	NA	NA	0.37	U	NA	0.38	U	NA	
	Phenol	mg/kg	1	NS	NS	0.17	U	NA	NA	NA	NA		0.18	U	NA	NA	NA	NA	NA	NA	0.18	U	NA	0.19	U	NA	
	2-Methylphenol	mg/kg	500	NS	NS	0.17	U	NA	NA	NA	NA		0.18	U	NA	NA	NA	NA	NA	NA	0.18	U	NA	0.19	U	NA	
	3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	NS	0.25	U	NA	NA	NA	NA		0.26	U	NA	NA	NA	NA	NA	NA	0.26	U	NA	0.28	U	NA	
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS	0.17	U	NA	NA	NA	NA		0.18	U	NA	NA	NA	NA	NA	NA	0.18	U	NA	0.19	U	NA	
	Pyridine	mg/kg	500	NS	NS	0.19	U	NA	NA	NA	NA		0.19	U	NA	NA	NA	NA	NA	NA	0.2	U	NA	0.21	U	NA	
	Total SVOCs	mg/kg	N/A	100	100	***0.370***		*NA*	*NA*	*NA*	*NA*		***0.120***		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	***3.12***		*NA*	***4.6***		*NA*	
Pesticides																											
	Delta-BHC	mg/kg	10	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00175	U	NA	0.00185	U	NA	
	Lindane	mg/kg	0.003	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.000584	U	NA	0.000617	U	NA	
	Alpha-BHC	mg/kg	50	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.000730	U	NA	0.000771	U	NA	
	Beta-BHC	mg/kg	10	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00175	U	NA	0.00185	U	NA	
	Heptachlor	mg/kg	0.3	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.000876	U	NA	0.000925	U	NA	
	Aldrin	mg/kg	0.08	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00175	U	NA	0.00185	U	NA	
	Heptachlor epoxide	mg/kg	0.1	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00328	U	NA	0.00347	U	NA	
	Endrin	mg/kg	10	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.000730	U	NA	0.000771	U	NA	
	Endrin ketone	mg/kg	10	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00175	U	NA	0.00185	U	NA	
	Dieldrin	mg/kg	0.08	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00109	U	NA	0.00116	U	NA	
	4,4'-DDE	mg/kg	6	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00175	U	NA	0.00185	U	NA	
	4,4'-DDD	mg/kg	8	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00175	U	NA	0.00185	U	NA	
	4,4'-DDT	mg/kg	6	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	**0.00475**		NA	0.00347	U	NA	
	Endosulfan I	mg/kg	0.5	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00175	U	NA	0.00185	U	NA	
	Endosulfan II	mg/kg	0.5	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00175	U	NA	0.00185	U	NA	
	Endosulfan sulfate	mg/kg	0.5	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.000730	U	NA	0.000771	U	NA	
	Methoxychlor	mg/kg	200	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00328	U	NA	0.00347	U	NA	
	Chlordane	mg/kg	0.7	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.0146	U	NA	0.0154	U	NA	
	Hexachlorobenzene	mg/kg	0.7	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.00175	U	NA	0.00185	U	NA	
Herbicides																											
	MCPP	mg/kg	NS	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	3.7	U	NA	3.8	U	NA	
	MCPA	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	3.7	U	NA	3.8	U	NA	
	Dalapon	mg/kg	1,000	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.037	U	NA	0.038	U	NA	
	Dicamba	mg/kg	500	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.037	U	NA	0.038	U	NA	
	Dichloroprop	mg/kg	NS	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.037	U	NA	0.038	U	NA	
	2,4-D	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.037	U	NA	0.038	U	NA	
	2,4-DB	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.037	U	NA	0.038	U	NA	
	2,4,5-T	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.037	U	NA	0.038	U	NA	
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS	NA		NA	NA	NA	NA		NA		NA	NA	NA	NA	NA	NA	0.037	U	NA	0.038	U	NA	
PCB Aroclors																											
	Aroclor-1016	mg/kg	1	NS	NS	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
	Aroclor-1221	mg/kg	1	NS	NS	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
	Aroclor-1232	mg/kg	1	NS	NS	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
	Aroclor-1242	mg/kg	1	NS	NS	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
	Aroclor-1248	mg/kg	1	NS	NS	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
	Aroclor-1254	mg/kg	1	NS	NS	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
	Aroclor-1260	mg/kg	1	NS	NS	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
	Aroclor-1262	mg/kg	1	NS	NS	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
	Aroclor-1268	mg/kg	1	NS	NS	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
	PCBs, Total	mg/kg	1	2	2	NA		0.034	U	NA	NA	NA	NA		0.035	U	NA	NA	NA	NA	NA	NA	0.0354	U	NA	0.0378	U	NA	
TPH																											
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000	35.2	U	NA	NA	NA	NA		36	U	NA	NA	NA	NA	NA	NA	**65.9**		NA	**61.3**		NA	
Metals, total																											
	Antimony	mg/kg	20	NS	NS	NA		2.03	U	NA	NA	NA	NA		2.01	U	NA	NA	NA	NA	NA	NA	NA	2.18	U	NA	
	Arsenic	mg/kg	20	40	40	NA		**2.55**		NA	NA	NA	NA		**4.11**		NA	NA	NA	NA	**9.84**		NA	**6.61**		NA	
	Barium	mg/kg	1,000	NS	NS	NA		**23.4**		NA	NA	NA	NA		**16.7**		NA	NA	NA	NA	**35.2**		NA	**36.8**		NA	
	Beryllium	mg/kg	90	NS	NS	NA		0.203	U	NA	NA	NA	NA		0.201	U	NA	NA	NA	NA	NA		NA	**0.419**		NA	
	Cadmium	mg/kg	70	30	80	NA		0.406	U	NA	NA	NA	NA		0.403	U	NA	NA	NA	NA	0.436	U	NA	**0.493**		NA	
	Chromium	mg/kg	100	1,000	1,000	NA		**11.3**		NA	NA	NA	NA		**9.49**		NA	NA	NA	NA	**17.0**		NA	**15.5**		NA	
	Lead	mg/kg	200	1,000	2,000	NA		**8.80**		NA	NA	NA	NA		**63.3**		NA	NA	NA	NA	**37.3**		NA	**22.9**		NA	
	Mercury	mg/kg	20	10	10	0.077	U	NA		NA	NA	NA	0.079	U	NA		NA	NA	NA	NA	**0.191**		NA	0.086	U	NA	
	Nickel	mg/kg	600	NS	NS	NA		**9.11**		NA	NA	NA	NA		**6.44**		NA	NA	NA	NA	NA		NA	**15.1**		NA	
	Selenium	mg/kg	400	NS	NS	NA		2.03	U	NA	NA	NA	NA		2.01	U	NA	NA	NA	NA	2.18	U	NA	2.18	U	NA	
	Silver	mg/kg	100	NS	NS	NA		0.406	U	NA	NA	NA	NA		0.403	U	NA	NA	NA	NA	0.436	U	NA	0.436	U	NA	
	Thallium	mg/kg	8	NS	NS	NA		2.03	U	NA	NA	NA	NA		2.01	U	NA	NA	NA	NA	NA		NA	2.18	U	NA	

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

						Sample Location:	GLX-TPW-613A	GLX-TPW-614				GLX-TPW-614A	GLX-TPW-615						WASH-C15DS		WASH-NABUTDS	
						Sample Depth^:	0-5 ft	0-5 ft	0-2/1 ft	2-5/4 ft	4 ft	0-5 ft	0-15 ft	1 ft	2-5/4 ft	5-8/7 ft	8-12/10 ft	12-15/13 ft	N/A	5 ft	N/A	3 ft
						Sample Date:	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	02/08/2020	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	10/20/2019	03/19/2020	03/19/2020	03/20/2020	03/20/2020
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**						Field Dup											
	Vanadium	mg/kg	400	NS	NS		NA	**19.3**	NA	NA	NA	NA	**10.9**	NA	NA	NA	NA	NA	NA	NA	**25.0**	NA
	Zinc	mg/kg	1,000	NS	NS		NA	**47.3**	NA	NA	NA	NA	**18.6**	NA	NA	NA	NA	NA	NA	NA	**55.4**	NA

TABLE 2
Additional Characterization Soil Ananlytical Results
Green Line Extension Project - Washington Street
Somerville, Massachusetts

		Sample Location:				**GLX-TPW-613A**		**GLX-TPW-614**								**GLX-TPW-614A**		**GLX-TPW-615**										**WASH-C15DS**				**WASH-NABUTDS**			
		Sample Depth^:				0-5 ft		0-5 ft		0-2/1 ft		2-5/4 ft		4 ft		0-5 ft		0-15 ft		1 ft		2-5/4 ft		5-8/7 ft		8-12/10 ft		12-15/13 ft		N/A		5 ft		N/A		3 ft	
		Sample Date:				02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		02/08/2020		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		03/19/2020		03/19/2020		03/20/2020		03/20/2020	
Analysis	Analyte	Sample Location:	RCS-1	Unlined Landfill**	Lined Landfill**									Field Dup																						
Metals, TCLP																																				
	Lead	mg/L	5*	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
General Chemistry																																				
	Ignitability	none	NS	NS	NS	NI		NA		NA		NA		NA		NI		NA		NA		NA		NA		NA		NI		NA		NI		NA	
	Specific conductance	umhos/cm	NS	4,000	8,000	**11**		NA		NA		NA		NA		**25**		NA		NA		NA		NA		NA		**110**		NA		**180**		NA	
	pH	su	NS	>2 <12.5	>2 <12.5	**7.4**		NA		**7.5**		**6.3**		NA		**8.2**		NA		NA		**6.6**		**6.6**		**6.2**		**6.2**		**10.2**		NA		**10.9**		NA	
	Reactive Cyanide	mg/kg	NS	< 250	< 250	10	U	NA		NA		NA		NA		10	U	NA		NA		NA		NA		NA		NA		10	U	NA		10	U	NA	
	Reactive Sulfide	mg/kg	NS	< 500	< 500	10	U	NA		NA		NA		NA		10	U	NA		NA		NA		NA		NA		NA		10	U	NA		10	U	NA	

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

E - Value exceeds calibration range.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

ND - Not detected.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD (relative percent difference) between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type are equal to RCS-1 or exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

RC - Reportable concentration.

* - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

** - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

^ - Sample depth for other/VOCs analysis; otherwise for all the analyses.

Table 2 - Soil Characterization Analytical Results
Washington Street - RTN 3-34742
Somerville, Massachusetts

						Sample Location:	GLC-VMF(48)-RCS-2-FILL(48)		GLC-WASHPS		GLC-WASHPS		GLC-OSCDRILLSPOILS		GLC-VMF(20)-RCS-1-FILL(16)		GLC-100IB-(0-3)		GLC-NP-314-15	
						Sample Name^:	GLC-VMF(48)-RCS-2-FILL(48)-DC-COMP/GLC-VMF(48)-RCS-2-FILL(48)-DC-VOC-7		GLC-WASHPS-40821-DC-COMP(0-2)/GLC-WASHPS-40821-DC-VOC (1-2)		GLC-WASHPS-041221-DC-COMP/GLC-WASHPS-041221-DC-VOC-6		OSCDRILLSPOILS-210329-DC-COMP/GLC-OSCDRILLSPOILS-210329-DC-VOC-8		GLC-VMF(20)-RCS-1-FILL(16)-DC-COMP/GLC-VMF(20)-RCS-1-FILL(16)-DC-VOC-2		GLC-100IB-(0-3)-041521-DC-COMP/GLC-100IB-(0-3)-041521-DC-VOC-3		GLC-NP-314-15-DC-COMP/GLC-NP-314-15-DC-VOC(4)	
						Sample Depth^:	N/A/7 ft		0-2/1-2 ft		N/A/6 ft		N/A/8 ft		N/A/2 ft		N/A/3 ft		N/A/4 ft	
						Sample Date:	4/6/2021		4/8/2021		4/23/2021		4/23/2021		4/28/2021		4/28/2021		6/10/2021	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*															
VOCs																				
	Methylene chloride	mg/kg	0.1	NS	NS		0.0026	U	0.0038	U	0.0042	U	0.0038	U	0.0028	U	0.0036	U	0.0026	U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Chloroform	mg/kg	0.2	NS	NS		0.00077	U	0.0012	U	0.0012	U	0.0011	U	0.00085	U	0.0011	U	0.00078	U
	Carbon tetrachloride	mg/kg	5	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Dibromochloromethane	mg/kg	0.005	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Tetrachloroethene	mg/kg	1	NS	NS		**0.00034**		**0.0024**		**0.0010**		**0.00056**		**0.00040**		0.00036	U	**0.00041**	
	Chlorobenzene	mg/kg	1	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Bromodichloromethane	mg/kg	0.1	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	1,1-Dichloropropene	mg/kg	0.01(4)	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Bromoform	mg/kg	0.1	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Benzene	mg/kg	2	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	**0.0035**		0.00026	U
	Toluene	mg/kg	30	NS	NS		0.00051	U	**0.00079**		0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Ethylbenzene	mg/kg	40	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Chloromethane	mg/kg	100	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	Bromomethane	mg/kg	0.5	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Vinyl chloride	mg/kg	0.7	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Chloroethane	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,1-Dichloroethene	mg/kg	3	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS		0.00077	U	0.0012	U	0.0012	U	0.0011	U	0.00085	U	0.0011	U	0.00078	U
	Trichloroethene	mg/kg	0.3	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	p/m-Xylene	mg/kg	100(2)	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	o-Xylene	mg/kg	100(2)	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Xylenes (Total)	mg/kg	100	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,2-Dichloroethene (total)	mg/kg	0.3	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Dibromomethane	mg/kg	500	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Styrene	mg/kg	3	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	Acetone	mg/kg	6	NS	NS		0.013	U	0.019	U	**0.036**		**0.02**		0.014	U	0.018	U	**0.015**	
	Carbon disulfide	mg/kg	100	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	2-Butanone	mg/kg	4	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	2-Hexanone	mg/kg	100	NS	NS		0.0051	U	0.0077	U	0.0083	U	0.0076	U	0.0057	U	0.0072	U	0.0052	U
	Bromochloromethane	mg/kg	NS	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Tetrahydrofuran	mg/kg	500	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	2,2-Dichloropropane	mg/kg	0.1(3)	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,3-Dichloropropane	mg/kg	500	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS		0.00026	U	0.00038	U	0.00042	U	0.00038	U	0.00028	U	0.00036	U	0.00026	U
	Bromobenzene	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	n-Butylbenzene	mg/kg	100(1)	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	sec-Butylbenzene	mg/kg	100(1)	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	tert-Butylbenzene	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	o-Chlorotoluene	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	p-Chlorotoluene	mg/kg	100(5)	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS		0.0015	U	0.0023	U	0.0025	U	0.0023	U	0.0017	U	0.0022	U	0.0016	U
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	Isopropylbenzene	mg/kg	1,000	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	p-Isopropyltoluene	mg/kg	100	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	Naphthalene	mg/kg	4	NS	NS		0.0020	U	0.0031	U	0.0033	U	0.0030	U	0.0023	U	0.0029	U	0.0021	U
	n-Propylbenzene	mg/kg	100	NS	NS		0.00051	U	0.00077	U	0.00083	U	0.00076	U	0.00057	U	0.00072	U	0.00052	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Ethyl ether	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Isopropyl Ether	mg/kg	100	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS		0.0010	U	0.0015	U	0.0017	U	0.0015	U	0.0011	U	0.0014	U	0.0010	U
	1,4-Dioxane	mg/kg	0.2	NS	NS		0.041	U	0.062	U	0.066	U	0.061	U	0.045	U	0.058	U	0.042	U
	Total VOCs	mg/kg	NS	4	10		***0.0003***		***0.003***		***0.037***		***0.021***		***0.0004***		***0.004***		***0.015***	
SVOCs																				
	Acenaphthene	mg/kg	4	NS	NS		0.15	U	0.15	U	0.16	U	0.14	U	0.14	U	0.14	U	0.14	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Azobenzene	mg/kg	NS	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Fluoranthene	mg/kg	1,000	NS	NS		**0.35**		**0.67**		**0.45**		**1.3**		**0.5**		**0.62**		**2.7**	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		0.21	U	0.21	U	0.21	U	0.19	U	0.19	U	0.19	U	0.19	U
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Hexachloroethane	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	Isophorone	mg/kg	100	NS	NS		0.17	U	0.17	U	0.18	U	0.16	U	0.16	U	0.16	U	0.16	U
	Naphthalene	mg/kg	4	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	**0.3**	
	Nitrobenzene	mg/kg	500	NS	NS		0.17	U	0.17	U	0.18	U	0.16	U	0.16	U	0.16	U	0.16	U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	**0.32**		0.18	U
	Butyl benzyl phthalate	mg/kg	100	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Di-n-butylphthalate	mg/kg	50	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Diethyl phthalate	mg/kg	10	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Dimethyl phthalate	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	Benzo(a)anthracene	mg/kg	7	NS	NS		**0.2**		**0.42**		**0.28**		**0.79**		**0.28**		**0.39**		**2**	
	Benzo(a)pyrene	mg/kg	2	NS	NS		**0.18**		**0.41**		**0.27**		**0.64**		**0.24**		**0.36**		**1.9**	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		**0.23**		**0.51**		**0.34**		**1**		**0.34**		**0.47**		**2.3**	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		0.12	U	**0.22**		**0.12**		**0.38**		**0.1**		**0.14**		**0.77**	
	Chrysene	mg/kg	70	NS	NS		**0.17**		**0.42**		**0.27**		**0.89**		**0.26**		**0.36**		**1.9**	
	Acenaphthylene	mg/kg	1	NS	NS		0.15	U	0.15	U	0.16	U	0.14	U	0.14	U	0.14	U	**0.3**	
	Anthracene	mg/kg	1,000	NS	NS		0.12	U	0.11	U	0.12	U	**0.36**		0.1	U	**0.1**		**0.58**	
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		0.15	U	**0.25**		**0.17**		**0.3**		**0.14**		**0.24**		**1.3**	
	Fluorene	mg/kg	1,000	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	**0.18**	
	Phenanthrene	mg/kg	10	NS	NS		**0.14**		**0.45**		**0.21**		**0.39**		**0.27**		**0.34**		**1.5**	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	**0.094**		0.074	U	0.073	U	**0.29**	
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		0.15	U	**0.28**		**0.18**		**0.35**		**0.15**		**0.24**		**1.4**	
	Pyrene	mg/kg	1,000	NS	NS		**0.32**		**0.6**		**0.4**		**1.1**		**0.46**		**0.61**		**2.8**	
	Aniline	mg/kg	1,000	NS	NS		0.23	U	0.23	U	0.24	U	0.22	U	0.21	U	0.21	U	0.22	U
	4-Chloroaniline	mg/kg	1	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Dibenzofuran	mg/kg	100	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		0.081	U	**0.1**		0.082	U	0.076	U	0.074	U	0.073	U	**0.13**	
	Acetophenone	mg/kg	1,000	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2-Chlorophenol	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		0.081	U	0.08	U	0.082	U	0.076	U	0.074	U	0.073	U	0.075	U
	2-Nitrophenol	mg/kg	100	NS	NS		0.42	U	0.41	U	0.42	U	0.39	U	0.38	U	0.38	U	0.39	U
	4-Nitrophenol	mg/kg	100	NS	NS		0.27	U	0.27	U	0.27	U	0.25	U	0.25	U	0.24	U	0.25	U
	2,4-Dinitrophenol	mg/kg	3	NS	NS		0.93	U	0.92	U	0.94	U	0.86	U	0.84	U	0.84	U	0.86	U
	Pentachlorophenol	mg/kg	3	NS	NS		0.39	U	0.38	U	0.39	U	0.36	U	0.35	U	0.35	U	0.36	U
	Phenol	mg/kg	1	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	2-Methylphenol	mg/kg	500	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	3-Methylphenol/4-Methylphenol	mg/kg	500	NS	NS		0.28	U	0.27	U	0.28	U	0.26	U	0.25	U	0.25	U	0.26	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS		0.19	U	0.19	U	0.2	U	0.18	U	0.18	U	0.17	U	0.18	U
	Pyridine	mg/kg	500	NS	NS		0.21	U	0.21	U	0.21	U	0.19	U	0.19	U	0.19	U	0.19	U
	Total SVOCs	mg/kg	NS	100	100		***1.59***		***4.33***		***2.69***		***7.59***		***2.74***		***4.19***		***20.4***	

Table 2 - Soil Characterization Analytical Results
Washington Street - RTN 3-34742
Somerville, Massachusetts

						Sample Location:		GLC-WASHPS				GLC-OSCDRILLSPOILS		GLC-VMF(20)-RCS-1-FILL(16)		GLC-100IB-(0-3)		GLC-NP-314-15	
						Sample Name^:	GLC-VMF(48)-RCS-2-FILL(48)-DC-COMP/GLC-VMF(48)-RCS-2-FILL(48)-DC-VOC-7		GLC-WASHPS-40821-DC-COMP (0-2)/GLC-WASHPS-40821-DC-VOC (1-2)		GLC-WASHPS-041221-DC-COMP/GLC-WASHPS-041221-DC-VOC-6		OSCDRILLSPOILS-210329-DC-COMP/GLC-OSCDRILLSPOILS-210329-DC-VOC-8		GLC-VMF(20)-RCS-1-FILL(16)-DC-COMP/GLC-VMF(20)-RCS-1-FILL(16)-DC-VOC-2		GLC-100IB-(0-3)-041521-DC-COMP/GLC-100IB-(0-3)-041521-DC-VOC-3		GLC-NP-314-15-DC-COMP/GLC-NP-314-15-DC-VOC(4)	
						Sample Depth^:	N/A/7 ft		0-2/1-2 ft		N/A/6 ft		N/A/8 ft		N/A/2 ft		N/A/3 ft		N/A/4 ft	
						Sample Date:	4/6/2021		4/8/2021		4/23/2021		4/23/2021		4/28/2021		4/28/2021		6/10/2021	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*															
PCBs																				
	Aroclor-1016	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1221	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1232	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1242	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1248	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1254	mg/kg	1	NS	NS		**0.0606**		0.0368	U	0.0387	U	0.0346	U	**0.0794**		**0.0451**		0.0362	U
	Aroclor-1260	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1262	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Aroclor-1268	mg/kg	1	NS	NS		0.0391	U	0.0368	U	0.0387	U	0.0346	U	0.0357	U	0.0349	U	0.0362	U
	Total PCBs	mg/kg	1	2	2		**0.0606**		0.0368	U	0.0387	U	0.0346	U	**0.0794**		**0.0451**		0.0362	U
Pesticides																				
	Delta-BHC	mg/kg	10	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Lindane	mg/kg	0.003	NS	NS		0.000609	U	0.000614	U	0.000590	U	0.000566	U	0.000560	U	0.000564	U	0.000575	U
	Alpha-BHC	mg/kg	50	NS	NS		0.000761	U	0.000767	U	0.000738	U	0.000707	U	0.000701	U	0.000704	U	0.000719	U
	Beta-BHC	mg/kg	10	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Heptachlor	mg/kg	0.3	NS	NS		0.000913	U	0.000920	U	0.000886	U	0.000848	U	0.000841	U	0.000845	U	0.000862	U
	Aldrin	mg/kg	0.08	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Heptachlor epoxide	mg/kg	0.1	NS	NS		0.00342	U	0.00345	U	0.00332	U	0.00318	U	0.00315	U	0.00317	U	0.00323	U
	Endrin	mg/kg	10	NS	NS		0.000761	U	0.000767	U	0.000738	U	0.000707	U	0.000701	U	0.000704	U	0.000719	U
	Endrin ketone	mg/kg	NS	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Dieldrin	mg/kg	0.08	NS	NS		0.00114	U	0.00115	U	0.00111	U	0.00106	U	0.00105	U	0.00106	U	0.00108	U
	4,4'-DDE	mg/kg	6	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	**0.00348**		**0.00210**	**P**	0.00172	U
	4,4'-DDD	mg/kg	8	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	**0.00518**		**0.00316**		**0.00236**	
	4,4'-DDT	mg/kg	6	NS	NS		0.00342	U	0.00345	U	0.00332	U	0.00318	U	**0.0103**	**P**	0.00317	U	**0.0102**	**P**
	Endosulfan I	mg/kg	0.5	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Endosulfan II	mg/kg	0.5	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
	Endosulfan sulfate	mg/kg	0.5	NS	NS		0.000761	U	0.000767	U	0.000738	U	0.000707	U	0.000701	U	0.000704	U	0.000719	U
	Methoxychlor	mg/kg	200	NS	NS		0.00342	U	0.00345	U	0.00332	U	0.00318	U	0.00315	U	0.00317	U	0.00323	U
	Chlordane	mg/kg	0.7	NS	NS		0.0152	U	0.0153	U	0.0148	U	0.0141	U	0.0140	U	0.0141	U	0.0144	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.00183	U	0.00184	U	0.00177	U	0.00170	U	0.00168	U	0.00169	U	0.00172	U
Herbicides																				
	MCPP	mg/kg	NS	NS	NS		3.9	U	3.8	U	3.9	U	3.5	U	3.6	U	3.5	U	3.6	U
	MCPA	mg/kg	100	NS	NS		3.9	U	3.8	U	3.9	U	3.5	U	3.6	U	3.5	U	3.6	U
	Dalapon	mg/kg	1,000	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	Dicamba	mg/kg	500	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	Dichloroprop	mg/kg	NS	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	2,4-D	mg/kg	100	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	2,4-DB	mg/kg	100	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	2,4,5-T	mg/kg	100	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS		0.039	U	0.038	U	0.039	U	0.035	U	0.036	U	0.035	U	0.036	U
TPH																				
	Total Petroleum Hydrocarbons C10-C36	mg/kg	1,000	2,500	5,000		39.3	U	**75.4**		**65.7**		**64.1**		**48.8**		**107**		**682**	
Metals, total																				
	Antimony	mg/kg	20	NS	NS		2.33	U	2.19	U	2.26	U	2.09	U	2.10	U	2.06	U	2.13	U
	Arsenic	mg/kg	20	40	40		**5.50**		**2.58**		**7.48**		**6.68**		**2.24**		**1.64**		**7.25**	
	Barium	mg/kg	1,000	NS	NS		**51.0**		**35.8**		**41.5**		**49.5**		**35.1**		**46.4**		**51.7**	
	Beryllium	mg/kg	90	NS	NS		**0.270**		**0.373**		0.226	U	0.209	U	**0.315**		**0.362**		**0.392**	
	Cadmium	mg/kg	70	30	80		**0.536**		0.439	U	**0.488**		**0.418**		0.420	U	**0.486**		**0.537**	
	Chromium	mg/kg	100	1,000	1,000		**22.0**		**9.72**		**19.3**		**19.4**		**20.5**		**24.3**		**16.1**	
	Lead	mg/kg	200	1,000	2,000		**18.8**		**27.6**		**78.8**		**87.7**		**20.7**		**25.8**		**133**	
	Mercury	mg/kg	20	10	10		0.086	U	0.078	U	**0.252**		**0.090**		**0.134**		**0.199**		**0.242**	
	Nickel	mg/kg	600	NS	NS		**17.7**		**7.44**		**14.0**		**11.3**		**15.8**		**15.4**		**11.9**	
	Selenium	mg/kg	400	NS	NS		2.33	U	2.19	U	2.26	U	2.09	U	2.10	U	2.06	U	2.13	U
	Silver	mg/kg	100	NS	NS		0.466	U	0.439	U	0.451	U	0.418	U	0.420	U	0.412	U	0.426	U
	Thallium	mg/kg	8	NS	NS		2.33	U	2.19	U	2.26	U	2.09	U	2.10	U	2.06	U	2.13	U
	Vanadium	mg/kg	400	NS	NS		**49.2**		**12.0**		**24.8**		**25.8**		**43.9**		**45.8**		**25.0**	
	Zinc	mg/kg	1,000	NS	NS		**43.6**		**21.1**		**75.7**		**48.7**		**56.8**		**71.0**		**123**	
Metals, TCLP																				
	Lead	mg/L	5**	NS	NS		NA		NA		NA		NA		NA		NA		0.500	U
General Chemistry																				
	Ignitability		NS	NS	NS		NI		NI		NI		NI		NI		NI		NI	
	Reactive Cyanide	mg/kg	NS	< 250	< 250		10	U	10	U	10	U	10	U	10	U	10	U	10	U
	Reactive Sulfide	mg/kg	NS	< 500	< 500		10	U	10	U	10	U	10	U	10	U	10	U	10	U
	pH	su	NS	>2 <12.5	>2 <12.5		**8.5**		**8.3**		**8.6**		**8.2**		**8.1**		**8.3**		**8.4**	
	Specific conductance	umhos/cm	NS	4,000	8,000		**86**		**69**		**53**		**82**		**53**		**68**		**110**	

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

ug/L - micrograms per liter.

NA - Sample not analyzed for the listed analyte.

N/A - Not available/applicable.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

* - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

** - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

^ - For other/VOCs analysis; otherwise for all the analyses.

(1) - Value for C9-C10 aromatics used.

(2) - Criteria applicable to xylene (total), the sum of the xylene isomers.

(3) - Value for Dichloropropane used.

(4) - Value for Dichloropropene used.

(5) - Value for Chlorotoluene used.

TABLE 1
SOIL SAMPLING SUMMARY

Collection Date	Collection Method	Disposal Sample ID(s)	Receiving Facility or Anticipated Receiving Facility	Disposal Package (Approval Number)
10/7/2021	Stockpile	GLC-NP-306A-18-C-DC-COMP GLC-NP-306A-18-C-DC-VOC-7	Niagara	Niagara No. 6
10/22/2021	Stockpile	GLC-WSPTOPCLEAN-DC-COMP GLC-WSPTOPCLEAN-DC-VOC-7	Lynn	Lynn No. 2 Amendment #4
11/9/2021	Stockpile	GLC-WASHPSSED102221-DC-COMP GLC-WASHPSSED102221-DC-VOC-3	Lynn	Lynn No. 2 Amendment #5
11/11/2021	Stockpile	GLC-NP-318B-02-DC-COMP GLC-NP-318B-02-DC-VOC-4	Heritage	Heritage No. 2 Amendment #4
12/20/2021	Stockpile	GLC-WASHPS20211213-DC-COMP GLC-WASHPS20211213-DC-VOC-06	Lynn	Lynn No. 2 Amendment #6
1/12/2022	Stockpile	GLC-WASHPUMP20210805RU-COMP GLC-WASHPUMP20210805RU-VOC(5)	Lynn	Lynn No. 2 Amendment #7

Receiving Facilities: Lynn Landfill Company, LLC. - Marine Boulevard to 25 Riley Way Extension, Lynn, MA 01905
Allied Niagara Falls Landfill – 5600 Niagara Fall Boulevard, Niagara Falls, NY 14304
Heritage Environmental Services – 4370 W. County Road 1275 N., Roachdale, IN 46172

Table 2 -- Soil Characterization Analytical Results -- October, November, and December 2021 and January 2022
Washington Street
MBTA Green Line Extension Project

						Sample Location:		GLC-NP-306A-18-C-DC		GLC-WASHPSSED-		GLC-WSPTOPCLEA		NP-318B-02-DC		WASHPS20211213-DC		WASHPUMP20210805RU
						Sample Name^:		GLC-NP-306A-18-C-DC-COMP/GLC-NP-306A-18-C-DC-VOC-7		GLC-WASHPSSED10 2221-DC-COMP/GLC-WASHPSSED10 2221-DC-VOC-3		GLC-WSPTOPCLEAN-DC-COMP/GLC-WSPTOPCLEAN-DC-VOC-7		GLC-NP-318B-02-DC-COMP/GLC-NP-318B-02-DC-VOC-4		GLC-WASHPS20211213-DC-COMP/GLC-WASHPS20211213-DC-VOC-06		GLC-WASHPUMP20210805RU-COMP/GLC-WASHPUMP20210805RU-VOC (5)
						Lab Sample ID^^:		L2154830-05/06/L2155291-02		L2161496-01/02		L2158092-01/02		L2162117-01/02		L2170050-01/02		L2201603-01/02
						Sample Depth:		N/A/7 ft		N/A/3 ft		N/A/7 ft		N/A/4 ft		N/A/6 ft		N/A/5 ft
						Sample Date:		10/7/2021		11/9/2021		10/22/2021		11/11/2021		12/20/2021		1/12/2022
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*													
VOCs																		
	Methylene chloride	mg/kg	0.1	NS	NS		0.27	U	0.0070	U	0.0036	U	0.24	U	0.0048	U	0.0056	U
	1,1-Dichloroethane	mg/kg	0.4	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	Chloroform	mg/kg	0.2	NS	NS		0.081	U	0.0021	U	0.0011	U	0.074	U	0.0014	U	0.0017	U
	Carbon tetrachloride	mg/kg	5	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	1,2-Dichloropropane	mg/kg	0.1	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	Dibromochloromethane	mg/kg	0.005	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	1,1,2-Trichloroethane	mg/kg	0.1	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	Tetrachloroethene	mg/kg	1	NS	NS		**0.05**		**0.023**		**0.017**		**3.2**		**0.0089**		**0.0035**	
	Chlorobenzene	mg/kg	1	NS	NS		0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U
	Trichlorofluoromethane	mg/kg	1,000	NS	NS		0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U
	1,2-Dichloroethane	mg/kg	0.1	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	1,1,1-Trichloroethane	mg/kg	30	NS	NS		0.027	U	0.00070	U	**0.00041**		**0.024**		0.00048	U	0.00056	U
	Bromodichloromethane	mg/kg	0.1	NS	NS		0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U
	trans-1,3-Dichloropropene	mg/kg	0.01	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	cis-1,3-Dichloropropene	mg/kg	0.01	NS	NS		0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U
	1,3-Dichloropropene, Total	mg/kg	0.01	NS	NS		0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U
	1,1-Dichloropropene	mg/kg	0.01(4)	NS	NS		0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U
	Bromoform	mg/kg	0.1	NS	NS		0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U
	1,1,2,2-Tetrachloroethane	mg/kg	0.005	NS	NS		0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U
	Benzene	mg/kg	2	NS	NS		**0.18**		0.00070	U	0.00036	U	0.024	U	**0.00063**		0.00056	U
	Toluene	mg/kg	30	NS	NS		**0.32**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	Ethylbenzene	mg/kg	40	NS	NS		**0.41**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	Chloromethane	mg/kg	100	NS	NS		0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U
	Bromomethane	mg/kg	0.5	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	Vinyl chloride	mg/kg	0.7	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	Chloroethane	mg/kg	100	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,1-Dichloroethene	mg/kg	3	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	trans-1,2-Dichloroethene	mg/kg	1	NS	NS		0.081	U	0.0021	U	0.0011	U	0.074	U	0.0014	U	0.0017	U
	Trichloroethene	mg/kg	0.3	NS	NS		0.027	U	**0.0034**		**0.00059**		**0.29**		**0.00080**		**0.00065**	
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	Methyl tert butyl ether	mg/kg	0.1	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	p/m-Xylene	mg/kg	100(2)	NS	NS		**0.49**		0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	o-Xylene	mg/kg	100(2)	NS	NS		**0.19**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	Xylenes (Total)	mg/kg	100	NS	NS		**0.68**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	cis-1,2-Dichloroethene	mg/kg	0.1	NS	NS		0.054	U	**0.0026**		0.00071	U	**0.079**		0.00096	U	0.0011	U
	1,2-Dichloroethene (total)	mg/kg	0.3	NS	NS		0.054	U	**0.0026**		0.00071	U	**0.079**		0.00096	U	0.0011	U
	Dibromomethane	mg/kg	500	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,2,3-Trichloropropane	mg/kg	100	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	Styrene	mg/kg	3	NS	NS		**0.12**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	Dichlorodifluoromethane	mg/kg	1,000	NS	NS		0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U
	Acetone	mg/kg	6	NS	NS		0.54	U	0.035	U	0.018	U	0.49	U	0.024	U	0.028	U
	Carbon disulfide	mg/kg	100	NS	NS		0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U
	2-Butanone	mg/kg	4	NS	NS		0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U
	4-Methyl-2-pentanone	mg/kg	0.4	NS	NS		0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U
	2-Hexanone	mg/kg	100	NS	NS		0.54	U	0.014	U	0.0071	U	0.49	U	0.0096	U	0.011	U
	Bromochloromethane	mg/kg	NS	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	Tetrahydrofuran	mg/kg	500	NS	NS		0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U
	2,2-Dichloropropane	mg/kg	0.1(3)	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,2-Dibromoethane	mg/kg	0.1	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	1,3-Dichloropropane	mg/kg	500	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,1,1,2-Tetrachloroethane	mg/kg	0.1	NS	NS		0.027	U	0.00070	U	0.00036	U	0.024	U	0.00048	U	0.00056	U
	Bromobenzene	mg/kg	100	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	n-Butylbenzene	mg/kg	100(1)	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	sec-Butylbenzene	mg/kg	100(1)	NS	NS		0.054	U	0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	tert-Butylbenzene	mg/kg	100	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	o-Chlorotoluene	mg/kg	100	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	p-Chlorotoluene	mg/kg	100(5)	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,2-Dibromo-3-chloropropane	mg/kg	10	NS	NS		0.16	U	0.0042	U	0.0021	U	0.15	U	0.0029	U	0.0033	U
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.22	U	0.0056	U	0.0028	U	0.2	U	0.0038	U	0.0045	U
	Isopropylbenzene	mg/kg	1,000	NS	NS		**0.069**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	p-Isopropyltoluene	mg/kg	100	NS	NS		**0.16**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	Naphthalene	mg/kg	4	NS	NS		**5.4**		**0.014**		0.0028	U	0.2	U	**0.0052**		0.0045	U
	n-Propylbenzene	mg/kg	100	NS	NS		**0.057**		0.0014	U	0.00071	U	0.049	U	0.00096	U	0.0011	U
	1,2,3-Trichlorobenzene	mg/kg	NS	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,3,5-Trimethylbenzene	mg/kg	10	NS	NS		**0.36**		0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,2,4-Trimethylbenzene	mg/kg	1,000	NS	NS		**0.4**		0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	Ethyl ether	mg/kg	100	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	Isopropyl Ether	mg/kg	100	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	Ethyl-Tert-Butyl-Ether	mg/kg	NS	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS		0.11	U	0.0028	U	0.0014	U	0.098	U	0.0019	U	0.0022	U
	1,4-Dioxane	mg/kg	0.2	NS	NS		4.3	U	0.11	U	0.057	U	3.9	U	0.077	U	0.089	U
	Total VOCs	mg/kg	NS	4	10		***8.21***		***0.043***		***0.018***		***3.59***		***0.016***		***0.004***	

Table 2 -- Soil Characterization Analytical Results -- October, November, and December 2021 and January 2022
Washington Street
MBTA Green Line Extension Project

						Sample Location:	GLC-NP-306A-18-C-DC		GLC-WASHPSSED-		GLC-WSPTOPCLEA		NP-318B-02-DC		WASHPS20211213-DC		WASHPUMP20210805RU	
						Sample Name^:	GLC-NP-306A-18-C-DC-COMP/GLC-NP-306A-18-C-DC-VOC-7		GLC-WASHPSSED10 2221-DC-COMP/GLC-WASHPSSED10 2221-DC-VOC-3		GLC-WSPTOPCLEAN-DC-COMP/GLC-WSPTOPCLEAN-DC-VOC-7		GLC-NP-318B-02-DC-COMP/GLC-NP-318B-02-DC-VOC-4		GLC-WASHPS20211213-DC-COMP/GLC-WASHPS20211213-DC-VOC-06		GLC-WASHPUMP20210805RU-COMP/GLC-WASHPUMP20210805RU-VOC (5)	
						Lab Sample ID^^:	L2154830-05/06/L2155291-02		L2161496-01/02		L2158092-01/02		L2162117-01/02		L2170050-01/02		L2201603-01/02	
						Sample Depth:	N/A/7 ft		N/A/3 ft		N/A/7 ft		N/A/4 ft		N/A/6 ft		N/A/5 ft	
						Sample Date:	10/7/2021		11/9/2021		10/22/2021		11/11/2021		12/20/2021		1/12/2022	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*													
SVOCs																		
	Acenaphthene	mg/kg	4	NS	NS		**6.2**		0.28	U	0.15	U	0.15	U	**0.22**		0.53	U
	1,2,4-Trichlorobenzene	mg/kg	2	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	Bis(2-chloroethyl)ether	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2-Chloronaphthalene	mg/kg	1,000	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	1,2-Dichlorobenzene	mg/kg	9	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	1,3-Dichlorobenzene	mg/kg	3	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	1,4-Dichlorobenzene	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	3,3'-Dichlorobenzidine	mg/kg	3	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	2,4-Dinitrotoluene	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2,6-Dinitrotoluene	mg/kg	100	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Azobenzene	mg/kg	NS	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Fluoranthene	mg/kg	1,000	NS	NS		**19**		**1**		**1.8**		**1.1**		**3.5**		**1.1**	
	4-Bromophenyl phenyl ether	mg/kg	100	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Bis(2-chloroisopropyl)ether	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	Bis(2-chloroethoxy)methane	mg/kg	500	NS	NS		1	U	0.38	U	0.2	U	0.2	U	0.24	U	0.72	U
	Hexachlorobutadiene	mg/kg	30	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Hexachloroethane	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	Isophorone	mg/kg	100	NS	NS		0.83	U	0.31	U	0.17	U	0.16	U	0.2	U	0.6	U
	Naphthalene	mg/kg	4	NS	NS		**11**		**0.42**		**0.34**		0.18	U	**0.51**		0.67	U
	Nitrobenzene	mg/kg	500	NS	NS		0.83	U	0.31	U	0.17	U	0.16	U	0.2	U	0.6	U
	Bis(2-Ethylhexyl)phthalate	mg/kg	90	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Butyl benzyl phthalate	mg/kg	100	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Di-n-butylphthalate	mg/kg	50	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Di-n-octylphthalate	mg/kg	1,000	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Diethyl phthalate	mg/kg	10	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Dimethyl phthalate	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	Benzo(a)anthracene	mg/kg	7	NS	NS		**10**		**0.45**		**1.2**		**0.68**		**1.8**		**0.62**	
	Benzo(a)pyrene	mg/kg	2	NS	NS		**10**		**0.5**		**1.3**		**0.66**		**1.8**		**0.69**	
	Benzo(b)fluoranthene	mg/kg	7	NS	NS		**10**		**0.64**		**1.5**		**0.74**		**2.1**		**0.84**	
	Benzo(k)fluoranthene	mg/kg	70	NS	NS		**3.9**		**0.21**		**0.56**		**0.29**		**0.67**		0.4	U
	Chrysene	mg/kg	70	NS	NS		**9.1**		**0.51**		**1.2**		**0.65**		**1.8**		**0.61**	
	Acenaphthylene	mg/kg	1	NS	NS		**4.8**		0.28	U	**0.31**		0.15	U	**0.5**		0.53	U
	Anthracene	mg/kg	1,000	NS	NS		**8.1**		0.21	U	**0.41**		**0.18**		**0.76**		0.4	U
	Benzo(ghi)perylene	mg/kg	1,000	NS	NS		**6**		**0.32**		**0.88**		**0.46**		**1.1**		0.53	U
	Fluorene	mg/kg	1,000	NS	NS		**8.8**		0.35	U	**0.19**		0.18	U	**0.35**		0.67	U
	Phenanthrene	mg/kg	10	NS	NS		**24**		**0.82**		**0.97**		**0.54**		**1.5**		**0.62**	
	Dibenzo(a,h)anthracene	mg/kg	0.7	NS	NS		**1**		0.15	U	**0.19**		**0.13**		**0.26**		0.28	U
	Indeno(1,2,3-cd)Pyrene	mg/kg	7	NS	NS		**6.4**		**0.34**		**0.94**		**0.54**		**1.2**		0.53	U
	Pyrene	mg/kg	1,000	NS	NS		**20**		**1**		**1.8**		**0.98**		**3.4**		**1.1**	
	Aniline	mg/kg	1,000	NS	NS		1.1	U	0.42	U	0.22	U	0.22	U	0.27	U	0.8	U
	4-Chloroaniline	mg/kg	1	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Dibenzofuran	mg/kg	100	NS	NS		**3.4**		0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	2-Methylnaphthalene	mg/kg	0.7	NS	NS		**6.6**		0.15	U	**0.18**		0.077	U	**0.28**		0.28	U
	Acetophenone	mg/kg	1,000	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	2,4,6-Trichlorophenol	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2-Chlorophenol	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2,4-Dichlorophenol	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2,4-Dimethylphenol	mg/kg	0.7	NS	NS		0.39	U	0.15	U	0.079	U	0.077	U	0.093	U	0.28	U
	2-Nitrophenol	mg/kg	100	NS	NS		2	U	0.75	U	0.41	U	0.39	U	0.48	U	1.4	U
	4-Nitrophenol	mg/kg	100	NS	NS		1.3	U	0.49	U	0.26	U	0.26	U	0.31	U	0.93	U
	2,4-Dinitrophenol	mg/kg	3	NS	NS		4.4	U	1.7	U	0.9	U	0.88	U	1.1	U	3.2	U
	Pentachlorophenol	mg/kg	3	NS	NS		1.8	U	0.7	U	0.38	U	0.36	U	0.44	U	1.3	U
	Phenol	mg/kg	1	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	2-Methylphenol	mg/kg	500	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	3/4-Methylphenol	mg/kg	NS	NS	NS		1.3	U	0.5	U	0.27	U	0.26	U	0.32	U	0.96	U
	2,4,5-Trichlorophenol	mg/kg	4	NS	NS		0.92	U	0.35	U	0.19	U	0.18	U	0.22	U	0.67	U
	Pyridine	mg/kg	500	NS	NS		1	U	0.38	U	0.2	U	0.2	U	0.24	U	0.72	U
	Biphenyl	mg/kg	0.05	NS	NS		NA		0.8	U	NA		0.42	U	**0.045**		0.13	U
	Total SVOCs	mg/kg	NS	100	100		***168***		***6.21***		***13.8***		***6.95***		***21.8***		***5.58***	
PCBs																		
	Aroclor-1016	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1221	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1232	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1242	mg/kg	1	NS	NS		**0.236**		0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1248	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1254	mg/kg	1	NS	NS		**0.0879**		0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1260	mg/kg	1	NS	NS		**0.0428**		0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1262	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Aroclor-1268	mg/kg	1	NS	NS		0.0369	U	0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U
	Total PCBs	mg/kg	1	2	2		**0.367**		0.0695	U	0.0372	U	0.0350	U	0.0434	U	0.0480	U

Table 2 -- Soil Characterization Analytical Results -- October, November, and December 2021 and January 2022
Washington Street
MBTA Green Line Extension Project

						Sample Location:	GLC-NP-306A-18-C-DC		GLC-WASHPSSED-		GLC-WSPTOPCLEA		NP-318B-02-DC		WASHPS20211213-DC		WASHPUMP20210805RU	
						Sample Name^:	GLC-NP-306A-18-C-DC-COMP/GLC-NP-306A-18-C-DC-VOC-7		GLC-WASHPSSED10 2221-DC-COMP/GLC-WASHPSSED10 2221-DC-VOC-3		GLC-WSPTOPCLEAN-DC-COMP/GLC-WSPTOPCLEAN-DC-VOC-7		GLC-NP-318B-02-DC-COMP/GLC-NP-318B-02-DC-VOC-4		GLC-WASHPS20211213-DC-COMP/GLC-WASHPS20211213-DC-VOC-06		GLC-WASHPUMP20210805RU-COMP/GLC-WASHPUMP20210805RU-VOC (5)	
						Lab Sample ID^^:	L2154830-05/06/L2155291-02		L2161496-01/02		L2158092-01/02		L2162117-01/02		L2170050-01/02		L2201603-01/02	
						Sample Depth:	N/A/7 ft		N/A/3 ft		N/A/7 ft		N/A/4 ft		N/A/6 ft		N/A/5 ft	
						Sample Date:	10/7/2021		11/9/2021		10/22/2021		11/11/2021		12/20/2021		1/12/2022	
Analysis	Analyte	Unit	RCS-1	Unlined Landfill*	Lined Landfill*													
Pesticides																		
	Delta-BHC	mg/kg	10	NS	NS		0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U
	Lindane	mg/kg	0.003	NS	NS		0.00588	U	0.00108	U	0.000587	U	0.000577	U	0.00198	U	0.000771	U
	Alpha-BHC	mg/kg	50	NS	NS		0.00735	U	0.00136	U	0.000733	U	0.000721	U	0.00247	U	0.000964	U
	Beta-BHC	mg/kg	10	NS	NS		0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U
	Heptachlor	mg/kg	0.3	NS	NS		0.00882	U	0.00163	U	0.000880	U	0.000866	U	0.00297	U	0.00116	U
	Aldrin	mg/kg	0.08	NS	NS		0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U
	Heptachlor epoxide	mg/kg	0.1	NS	NS		0.0331	U	0.00610	U	0.00330	U	0.00325	U	0.0111	U	0.00434	U
	Endrin	mg/kg	10	NS	NS		0.00735	U	0.00136	U	0.000733	U	0.000721	U	0.00247	U	0.000964	U
	Endrin ketone	mg/kg	10	NS	NS		0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U
	Dieldrin	mg/kg	0.08	NS	NS		0.0110	U	0.00203	U	0.00110	U	0.00108	U	0.00371	U	0.00144	U
	4,4'-DDE	mg/kg	6	NS	NS		0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U
	4,4'-DDD	mg/kg	8	NS	NS		0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U
	4,4'-DDT	mg/kg	6	NS	NS		**0.0397**		**0.00652**		0.00330	U	**0.00342**	**IP**	0.0111	U	0.00434	U
	Endosulfan I	mg/kg	0.5	NS	NS		0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U
	Endosulfan II	mg/kg	0.5	NS	NS		0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U
	Endosulfan sulfate	mg/kg	0.5	NS	NS		0.00735	U	0.00136	U	0.000733	U	0.000721	U	0.00247	U	0.000964	U
	Methoxychlor	mg/kg	200	NS	NS		0.0331	U	0.00610	U	0.00330	U	0.00325	U	0.0111	U	0.00434	U
	Chlordane	mg/kg	0.7	NS	NS		0.147	U	0.0271	U	0.0147	U	0.0144	U	0.0495	U	0.0193	U
	Hexachlorobenzene	mg/kg	0.7	NS	NS		0.0176	U	0.00325	U	0.00176	U	0.00173	U	0.00594	U	0.00231	U
Herbicides																		
	MCPP	mg/kg	NS	NS	NS		3.7	U	7	U	3.8	U	3.7	U	4.5	U	4.7	U
	MCPA	mg/kg	100	NS	NS		3.7	U	7	U	3.8	U	3.7	U	4.5	U	4.7	U
	Dalapon	mg/kg	1,000	NS	NS		0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U
	Dicamba	mg/kg	500	NS	NS		0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U
	Dichloroprop	mg/kg	NS	NS	NS		0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U
	2,4-D	mg/kg	100	NS	NS		0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U
	2,4-DB	mg/kg	100	NS	NS		0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U
	2,4,5-T	mg/kg	100	NS	NS		0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U
	2,4,5-TP (Silvex)	mg/kg	100	NS	NS		0.037	U	0.07	U	0.038	U	0.037	U	0.045	U	0.047	U
TPH																		
	Total Petroleum Hydrocarbons	mg/kg	1,000	2,500	5,000		**4,340**		**174**		**408**		**120**		**2,160**		**770**	
Metals, total																		
	Antimony	mg/kg	20	NS	NS		2.19	U	4.18	U	2.24	U	2.13	U	2.59	U	2.82	U
	Arsenic	mg/kg	20	40	40		**5.36**		**9.18**		**3.44**		**3.85**		**5.11**		**5.55**	
	Barium	mg/kg	1,000	NS	NS		**38.0**		**92.1**		**24.1**		**35.8**		**39.8**		**53.4**	
	Beryllium	mg/kg	90	NS	NS		**0.237**		**0.619**		**0.287**		**0.255**		**0.301**		**0.366**	
	Cadmium	mg/kg	70	30	80		**0.657**		**1.08**		0.449	U	0.425	U	0.518	U	0.564	U
	Chromium	mg/kg	100	1,000	1,000		**12.1**		**37.3**		**16.0**		**12.7**		**16.9**		**20.3**	
	Lead	mg/kg	200	1,000	2,000		**134**		**80.9**		**38.9**		**60.5**		**91.7**		**72.9**	
	Mercury	mg/kg	20	10	10		**0.187**		0.152	U	**0.093**		**0.191**		**0.445**		**0.207**	
	Nickel	mg/kg	600	NS	NS		**9.30**		**25.9**		**10.9**		**10.2**		**12.2**		**14.5**	
	Selenium	mg/kg	400	NS	NS		2.19	U	4.18	U	2.24	U	2.13	U	2.59	U	2.82	U
	Silver	mg/kg	100	NS	NS		0.438	U	0.837	U	0.449	U	0.425	U	0.518	U	0.564	U
	Thallium	mg/kg	8	NS	NS		2.19	U	4.18	U	2.24	U	2.13	U	2.59	U	2.82	U
	Vanadium	mg/kg	400	NS	NS		**22.9**		**50.1**		**29.8**		**16.6**		**24.6**		**27.6**	
	Zinc	mg/kg	1,000	NS	NS		**160**		**148**		**67.6**		**62.6**		**96.5**		**101**	
Metals, TCLP																		
	Lead	mg/L	5**	NS	NS		0.500	U	NA		NA		NA		NA		NA	
General Chemistry																		
	Ignitability		NS	NS	NS		NI		NI		NI		NI		NI		NI	
	Specific Conductance	umhos/cm	NS	4,000	8,000		**110**		**110**		**68**		**93**		**110**		**86**	
	pH	su	NS	2 - 12.5	2 - 12.5		**7.6**		**8.2**		**8.0**		**8.2**		**7.4**		**7.4**	
	Reactive Cyanide	mg/kg	NS	< 250	< 250		10	U	10	U	10	U	10	U	10	U	10	U
	Reactive Sulfide	mg/kg	NS	< 500	< 500		10	U	10	U	10	U	10	U	10	U	10	U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

su - Standard unit.

umhos/cm - Micro-mhos per centimeter.

I - The lower value for the two columns has been reported due to obvious interference.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable/available.

NI - Not ignitable.

NS - No MassDEP standards exist for this analyte.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed MassDEP standards/criteria.

VOCs - Volatile Organic Compounds.

* - Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, MassDEP Policy # COMM-97-001, August 1997.

** - EPA SW-846 Chapter 7, Table 7-1, Maximum Concentration of Contaminants for Toxicity Characteristic.

SVOCs - Semivolatile Organic Compounds.

PCBs - Polychlorinated Biphenyls.

RC - Reportable concentration.

TPH - Total Petroleum Hydrocarbons.

(1) - Value for C9-C10 aromatics used.

(2) - Criteria applicable to xylene (total), the sum of the xylene isomers.

(3) - Value for Dichloropropane used.

(4) - Value for Dichloropropene used.

(5) - Value for Chlorotoluene used.

^ - Sample name for Other/VOC analysis.

^^ - Lab Sample ID for Other/VOC/TCLP analysis; otherwise Lab Sample ID applied to Other/VOC analysis.

Table 2 - Soil Characterization Analytical Results
MBTA Green Line Extension Project
132 Washington Street
Somerville, Massachusetts
Release Tracking Number 3-34742
March 2022 - August 2022

											LOCATION	GLC-WASHPUMPGAS030222-DC-COMP		GLC-WASHPUMPGAS030222-DC-VOC(1)	
											SAMPLING DATE	3/11/2022		3/11/2022	
											LAB SAMPLE ID	22C1091-01		22C1091-02	
											SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
General Chemistry															
	Specific Conductance @ 25 C	SC					8000	4000	2000		umhos/cm	30		-	-
	Solids, Total	TSOLIDS									%	87.0		87.0	
	pH (H)	12408-02-5							5-9	2-12.5	SU	8.8		-	-
	Cyanide, Reactive	GIS-250-012							250	250	mg/kg	3.9	U	-	-
	Sulfide, Reactive	RSULF							500	500	mg/kg	19	U	-	-
Ignitability of Solids															
	Ignitability	IGNIT							>140°	NI		Absent		-	-
MCP Chlorinated Herbicides															
	2,4-D	94-75-7		100	1000				10		mg/kg	0.11	U	-	-
	2,4-DB	94-82-6		100	1000				10		mg/kg	0.11	U	-	-
	2,4,5-TP (Silvex)	93-72-1		100	1000				10		mg/kg	0.011	U	-	-
	2,4,5-T	93-76-5		100	1000				10		mg/kg	0.011	U	-	-
	Dalapon	75-99-0		1000	10000				100		mg/kg	0.29	U	-	-
	Dicamba	1918-00-9		500	5000				50		mg/kg	0.011	U	-	-
	Dichloroprop	120-36-5							0.08		mg/kg	0.11	U	-	-
	MCPA	94-74-6		100	1000				10		mg/kg	11	U	-	-
	MCPP	93-65-2							3.3		mg/kg	11	U	-	-
MCP Organochlorine Pesticides															
	Aldrin	309-00-2		0.08	0.5	0.7			0.05		mg/kg	0.11	U	-	-
	Alpha-BHC	319-84-6		50	500				5		mg/kg	0.11	U	-	-
	Beta-BHC	319-85-7		10	100				1		mg/kg	0.11	U	-	-
	Delta-BHC	319-86-8		10	100				1		mg/kg	0.11	U	-	-
	Lindane	58-89-9		0.003	0.5	0.46			0.0003		mg/kg	0.046	U	-	-
	Chlordane	57-74-9		0.7	30	27			0.07		mg/kg	0.46	U	-	-
	4,4'-DDD	72-54-8		8	40	14			0.8		mg/kg	0.092	U	-	-
	4,4'-DDE	72-55-9		6	30	14			0.6		mg/kg	0.092	U	-	-
	4,4'-DDT	50-29-3		6	30	14			0.6		mg/kg	0.092	U	-	-
	Dieldrin	60-57-1		0.08	0.5	1			0.05		mg/kg	0.092	U	-	-
	Endosulfan I	959-98-8		0.5	1	1.2			0.05		mg/kg	0.11	U	-	-
	Endosulfan II	33213-65-9		0.5	1	1.2			0.05		mg/kg	0.18	U	-	-
	Endosulfan sulfate	1031-07-8							0.008		mg/kg	0.18	U	-	-
	Endrin	72-20-8		10	20	7			1		mg/kg	0.18	U	-	-
	Endrin ketone	53494-70-5							0.008		mg/kg	0.18	U	-	-
	Heptachlor	76-44-8		0.3	2	4.2			0.03		mg/kg	0.11	U	-	-
	Heptachlor epoxide	1024-57-3		0.1	0.9	0.35			0.01		mg/kg	0.11	U	-	-
	Hexachlorobenzene	118-74-1		0.7	0.8	15			0.07	0.8	mg/kg	0.14	U	-	-
	Methoxychlor	72-43-5		200	400	140			20		mg/kg	1.1	U	-	-
MCP Polychlorinated Biphenyls															
	Aroclor 1016	12674-11-2		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1221	11104-28-2		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1232	11141-16-5		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1242	53469-21-9		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1248	12672-29-6		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1254	11097-69-1		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1260	11096-82-5		1	4	1.6				4	mg/kg	0.092	U	-	-
	Aroclor 1262	37324-23-5		1	4	1.6					mg/kg	0.092	U	-	-
	Aroclor 1268	11100-14-4		1	4	1.6					mg/kg	0.092	U	-	-
	PCBs, Total	1336-36-3		1	4	1.6	2	2	0.1	4	mg/kg	0.092	U	-	-
MCP Semivolatile Organics															
	Biphenyl	92-52-4		0.05	6				0.005			0.77	U		
	Acenaphthene	83-32-9	0.5	4	3000	5000			4	69	mg/kg	0.099	J	-	-
	Acenaphthylene	208-96-8	0.5	1	10	14			1	10	mg/kg	0.16	J	-	-
	Acetophenone	98-86-2		1000	10000				100	2500	mg/kg	0.39	U	-	-
	Aniline	62-53-3		1000	10000				100	2500	mg/kg	0.39	U	-	-
	Anthracene	120-12-7	1	1000	3000	5000			1000	2500	mg/kg	0.43		-	-
	Benzo(a)anthracene	56-55-3	2	7	40	160			7	40	mg/kg	1.2		-	-
	Benzo(a)pyrene	50-32-8	2	2	7	16			2	7	mg/kg	1.3		-	-
	Benzo(b)fluoranthene	205-99-2	2	7	40	160			7	40	mg/kg	1.5		-	-
	Benzo(ghi)perylene	191-24-2	1	1000	3000	5000			1000	2500	mg/kg	0.64		-	-
	Benzo(k)fluoranthene	207-08-9	1	70	400	1600			70	400	mg/kg	0.61		-	-
	Bis(2-chloroethoxy)methane	111-91-1		500	5000				50	2500	mg/kg	0.39	U	-	-
	Bis(2-chloroethyl)ether	111-44-4		0.7	0.7	4.7			0.1	0.7	mg/kg	0.39	U	-	-
	Bis(2-chloroisopropyl)ether	108-60-1		0.7	0.7	74			0.1	0.7	mg/kg	0.39	U	-	-
	Bis(2-ethylhexyl)phthalate	117-81-7		90	600	230			60	600	mg/kg	0.39	U	-	-
	4-Bromophenyl phenyl ether	101-55-3		100	1000				10	500	mg/kg	0.39	U	-	-
	Butyl benzyl phthalate	85-68-7		100	1000				10	500	mg/kg	0.39	U	-	-
	4-Chloroaniline	106-47-8		1	3	3.3			0.1	3	mg/kg	0.76	U	-	-
	2-Chloronaphthalene	91-58-7		1000	10000				100	2500	mg/kg	0.39	U	-	-
	2-Chlorophenol	95-57-8		0.7	100	310			0.1	7	mg/kg	0.39	U	-	-
	Chrysene	218-01-9	2	70	400	3400			70	400	mg/kg	1.2		-	-
	Dibenzo(a,h)anthracene	53-70-3	0.5	0.7	4	16			0.7	4	mg/kg	0.19	J	-	-
	Dibenzofuran	132-64-9		100	1000				100	500	mg/kg	0.15	J	-	-
	Di-n-butylphthalate	84-74-2		50	500				5	375	mg/kg	0.39	U	-	-
	1,2-Dichlorobenzene	95-50-1		9	100	330			0.9	90	mg/kg	0.39	U	-	-
	1,3-Dichlorobenzene	541-73-1		3	200	500			0.3	30	mg/kg	0.39	U	-	-
	1,4-Dichlorobenzene	106-46-7		0.7	1	1200			0.1	1	mg/kg	0.39	U	-	-
	3,3'-Dichlorobenzidine	91-94-1		3	20	20			0.3	20	mg/kg	0.2	U	-	-
	2,4-Dichlorophenol	120-83-2		0.7	40	40			0.1	7	mg/kg	0.39	U	-	-
	Diethyl phthalate	84-66-2		10	200	290			1	75	mg/kg	0.39	U	-	-
	2,4-Dimethylphenol	105-67-9		0.7	100	1300			0.1	7	mg/kg	0.39	U	-	-
	Dimethyl phthalate	131-11-3		0.7	50	550			0.1	7	mg/kg	0.39	U	-	-
	2,4-Dinitrophenol	51-28-5		3	50	45			0.3	30	mg/kg	0.76	U	-	-
	2,4-Dinitrotoluene	121-14-2		0.7	10	36			0.1	7	mg/kg	0.39	U	-	-
	2,6-Dinitrotoluene	606-20-2		100	1000				10	500	mg/kg	0.39	U	-	-
	Di-n-octylphthalate	117-84-0		1000	10000				100	2500	mg/kg	0.39	U	-	-
	Azobenzene	103-33-3		50	500				5	375	mg/kg	0.39	U	-	-
	Fluoranthene	206-44-0	4	1000	3000	5000			1000	2500	mg/kg	2.2		-	-
	Fluorene	86-73-7	1	1000	3000	5000			1000	2500	mg/kg	0.18	J	-	-

Table 2 - Soil Characterization Analytical Results
MBTA Green Line Extension Project
132 Washington Street
Somerville, Massachusetts
Release Tracking Number 3-34742
March 2022 - August 2022

											LOCATION	**GLC-WASHPUMPGAS030222-DC-COMP**		**GLC-WASHPUMPGAS030222-DC-VOC(1)**	
											SAMPLING DATE	**3/11/2022**		**3/11/2022**	
											LAB SAMPLE ID	**22C1091-01**		**22C1091-02**	
											SAMPLE TYPE	**SOIL**		**SOIL**	
		CasNum	**MA-BLNS**	**RCS-1-14**	**RCS-2-14**	**BUD-S3/G3**	**MA-LLAND**	**MA-ULAND**	**Saugus**	**TRC-SSSR-GLX**	**Units**	**Results**	**Qual**	**Results**	**Qual**
	Hexachlorobenzene	118-74-1		0.7	0.8	15			0.1	0.8	mg/kg	0.39	U	-	-
	Hexachlorobutadiene	87-68-3		30	100	54			3	100	mg/kg	0.39	U	-	-
	Hexachloroethane	67-72-1		0.7	3	74			0.1	3	mg/kg	0.39	U	-	-
	Indeno(1,2,3-cd)pyrene	193-39-5	1	7	40	160			7	40	mg/kg	0.70		-	-
	Isophorone	78-59-1		100	1000				10	500	mg/kg	0.39	U	-	-
	2-Methylnaphthalene	91-57-6	0.5	0.7	80	240			0.7	25	mg/kg	0.18	J	-	-
	2-Methylphenol	95-48-7		500	5000				50	2500	mg/kg	0.39	U	-	-
	3-Methylphenol/4-Methylphenol	108-39-4/106-44-5		500	5000				50	2500	mg/kg	0.39	U	-	-
	Naphthalene	91-20-3	0.5	4	20	3000			4	20	mg/kg	0.32		-	-
	Nitrobenzene	98-95-3		500	5000				50	2500	mg/kg	0.39	U	-	-
	2-Nitrophenol	88-75-5		100	1000				10	500	mg/kg	0.39	U	-	-
	4-Nitrophenol	100-02-7		100	1000				10	500	mg/kg	0.76	U	-	-
	Pentachlorophenol	87-86-5		3	10	13			0.3	10	mg/kg	0.39	U	-	-
	Phenanthrene	85-01-8	3	10	1000	3000			10	532.5	mg/kg	1.2		-	-
	Phenol	108-95-2		1	20	16			0.1	10	mg/kg	0.39	U	-	-
	Pyrene	129-00-0	4	1000	3000	5000			1000	2500	mg/kg	2.3		-	-
	Pyridine	110-86-1		500	5000				50		mg/kg	0.39	U	-	-
	1,2,4-Trichlorobenzene	120-82-1		2	6	450			0.2	6	mg/kg	0.39	U	-	-
	2,4,5-Trichlorophenol	95-95-4		4	600	580			0.4	40	mg/kg	0.39	U	-	-
	2,4,6-Trichlorophenol	88-06-2		0.7	20	19			0.1	7	mg/kg	0.39	U	-	-
	Total SVOCs						100	100			mg/kg	14.559	J	-	-
MCP Total Metals															
	Antimony, Total	7440-36-0	1	20	30	16			20	30	mg/kg	1.9	U	-	-
	Arsenic, Total	7440-38-2	20	20	20	11	40	40	20	20	mg/kg	4.1		-	-
	Barium, Total	7440-39-3	50	1000	3000	2100			1000	2500	mg/kg	38		-	-
	Beryllium, Total	7440-41-7	0.4	90	200	10			90	200	mg/kg	0.38		-	-
	Cadmium, Total	7440-43-9	2	70	100	16	80	30	70	100	mg/kg	0.38	U	-	-
	Chromium, Total	7440-47-3	30	100	200	570	1000	1000	100	200	mg/kg	23		-	-
	Lead, Total	7439-92-1	100	200	600	110	2000	1000	200	600	mg/kg	32		-	-
	Mercury, Total	7439-97-6	0.3	20	30	16	10	10	20	30	mg/kg	0.17		-	-
	Nickel, Total	7440-02-0	20	600	1000	350			600	1000	mg/kg	19		-	-
	Selenium, Total	7782-49-2	0.5	400	700	390			400	700	mg/kg	3.8	U	-	-
	Silver, Total	7440-22-4	0.6	100	200	110			100	200	mg/kg	0.38	U	-	-
	Thallium, Total	7440-28-0	0.6	8	60	37			8	60	mg/kg	1.9	U	-	-
	Vanadium, Total	7440-62-2	30	400	700	530			400	700	mg/kg	42		-	-
	Zinc, Total	7440-66-6	100	1000	3000	5000			1000	2500	mg/kg	65		-	-
MCP Volatile Organics by EPA 5035															
	Acetone	67-64-1		6	50	350			0.6	50	mg/kg	-	-	0.074	U
	Tertiary-Amyl Methyl Ether	994-05-8							0.01		mg/kg	-	-	0.00074	U
	Benzene	71-43-2		2	200	540			0.2	20	mg/kg	-	-	0.0015	U
	Bromobenzene	108-86-1		100	1000				10	500	mg/kg	-	-	0.0015	U
	Bromochloromethane	74-97-5							0.01		mg/kg	-	-	0.0015	U
	Bromodichloromethane	75-27-4		0.1	0.1	460			0.1	0.1	mg/kg	-	-	0.0015	U
	Bromoform	75-25-2		0.1	1	800			0.1	1	mg/kg	-	-	0.0015	U
	Bromomethane	74-83-9		0.5	0.5	32			0.1	0.5	mg/kg	-	-	0.0074	U
	Methyl ethyl ketone	78-93-3		4	50	350			0.4	40	mg/kg	-	-	0.029	U
	n-Butylbenzene	104-51-8							0.01	500	mg/kg	-	-	0.0015	U
	sec-Butylbenzene	135-98-8							0.01	500	mg/kg	-	-	0.0015	U
	tert-Butylbenzene	98-06-6		100	1000				10	500	mg/kg	-	-	0.0015	U
	Ethyl-Tert-Butyl-Ether	637-92-3							0.01		mg/kg	-	-	0.00074	U
	Carbon disulfide	75-15-0		100	1000				10	500	mg/kg	-	-	0.0074	U
	Carbon tetrachloride	56-23-5		5	5	220			0.5	5	mg/kg	-	-	0.0015	U
	Chlorobenzene	108-90-7		1	3	110			0.1	3	mg/kg	-	-	0.0015	U
	Dibromochloromethane	124-48-1		0.005	0.03	340			0.0005	0.03	mg/kg	-	-	0.00074	U
	Chloroethane	75-00-3		100	1000				10	500	mg/kg	-	-	0.015	U
	Chloroform	67-66-3		0.2	0.2	410			0.1	0.2	mg/kg	-	-	0.0029	U
	Chloromethane	74-87-3		100	1000				10	500	mg/kg	-	-	0.0074	U
	o-Chlorotoluene	95-49-8		100	1000				10	500	mg/kg	-	-	0.0015	U
	p-Chlorotoluene	106-43-4							0.01	500	mg/kg	-	-	0.0015	U
	1,2-Dibromo-3-chloropropane	96-12-8		10	100				1	75	mg/kg	-	-	0.0015	U
	1,2-Dibromoethane	106-93-4		0.1	0.1	0.33			0.1	0.1	mg/kg	-	-	0.00074	U
	Dibromomethane	74-95-3		500	5000				50	2500	mg/kg	-	-	0.0015	U
	1,2-Dichlorobenzene	95-50-1		9	100	330			0.9	90	mg/kg	-	-	0.0015	U
	1,3-Dichlorobenzene	541-73-1		3	200	500			0.3	30	mg/kg	-	-	0.0015	U
	1,4-Dichlorobenzene	106-46-7		0.7	1	1200			0.1	1	mg/kg	-	-	0.0015	U
	Dichlorodifluoromethane	75-71-8		1000	10000				100	2500	mg/kg	-	-	0.015	U
	1,1-Dichloroethane	75-34-3		0.4	9	1300			0.1	4	mg/kg	-	-	0.0015	U
	1,2-Dichloroethane	107-06-2		0.1	0.1	310			0.1	0.1	mg/kg	-	-	0.0015	U
	1,1-Dichloroethene	75-35-4		3	40	1600			0.3	30	mg/kg	-	-	0.0029	U
	cis-1,2-Dichloroethene	156-59-2		0.1	0.1	500			0.1	0.1	mg/kg	-	-	0.0015	U
	trans-1,2-Dichloroethene	156-60-5		1	1	2500			0.1	1	mg/kg	-	-	0.0015	U
	1,2-Dichloropropane	78-87-5		0.1	0.1	280			0.1	0.1	mg/kg	-	-	0.0015	U
	1,3-Dichloropropane	142-28-9		500	5000				50	2500	mg/kg	-	-	0.00074	U
	2,2-Dichloropropane	594-20-7							0.01	0.1	mg/kg	-	-	0.0015	U
	1,1-Dichloropropene	563-58-6							0.01	0.1	mg/kg	-	-	0.0015	U
	cis-1,3-Dichloropropene	10061-01-5		0.01	0.4	140			0.001	0.1	mg/kg	-	-	0.00074	U
	trans-1,3-Dichloropropene	10061-02-6		0.01	0.4	140			0.001	0.1	mg/kg	-	-	0.00074	U
	Diethyl ether	60-29-7		100	1000				10	500	mg/kg	-	-	0.015	U
	Diisopropyl Ether	108-20-3		100	1000				10	500	mg/kg	-	-	0.00074	U
	1,4-Dioxane	123-91-1		0.2	6	450			0.1	2	mg/kg	-	-	0.074	U
	Ethylbenzene	100-41-4		40	1000	230			4	300	mg/kg	-	-	0.0015	U
	Hexachlorobutadiene	87-68-3		30	100	54			3	100	mg/kg	-	-	0.0015	U
	2-Hexanone	591-78-6		100	1000				10	500	mg/kg	-	-	0.015	U
	Isopropylbenzene	98-82-8		1000	10000				100	2500	mg/kg	-	-	0.0015	U
	p-Isopropyltoluene	99-87-6		100	1000				10	500	mg/kg	-	-	0.0015	U
	Methyl tert butyl ether	1634-04-4		0.1	100	500			0.1	1.9	mg/kg	-	-	0.0029	U
	Methylene chloride	75-09-2		0.1	4	900			0.1	1	mg/kg	-	-	0.015	U
	Methyl isobutyl ketone	108-10-1		0.4	50	400			0.1	4	mg/kg	-	-	0.015	U
	Naphthalene	91-20-3	0.5	4	20	3000			4	20	mg/kg	-	-	0.0029	U

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132 Washington Street
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											LOCATION	GLC-WASHPUMPGAS030222-DC-COMP		GLC-WASHPUMPGAS030222-DC-VOC(1)	
											SAMPLING DATE	3/11/2022		3/11/2022	
											LAB SAMPLE ID	22C1091-01		22C1091-02	
											SAMPLE TYPE	SOIL		SOIL	
		CasNum	MA-BLNS	RCS-1-14	RCS-2-14	BUD-S3/G3	MA-LLAND	MA-ULAND	Saugus	TRC-SSSR-GLX	Units	Results	Qual	Results	Qual
	n-Propylbenzene	103-65-1		100	1000				10	500	mg/kg	-	-	0.0015	U
	Styrene	100-42-5		3	4	630			0.3	4	mg/kg	-	-	0.0015	U
	1,1,1,2-Tetrachloroethane	630-20-6		0.1	0.1	150			0.1	0.1	mg/kg	-	-	0.0015	U
	1,1,2,2-Tetrachloroethane	79-34-5		0.005	0.02	19			0.0005	0.02	mg/kg	-	-	0.00074	U
	Tetrachloroethene	127-18-4		1	10	370			0.1	10	mg/kg	-	-	0.0085	
	Tetrahydrofuran	109-99-9		500	5000				50	2500	mg/kg	-	-	0.0074	U
	Toluene	108-88-3		30	1000	520			3	225	mg/kg	-	-	0.0015	U
	1,2,3-Trichlorobenzene	87-61-6							0.01		mg/kg	-	-	0.0015	U
	1,2,4-Trichlorobenzene	120-82-1		2	6	450			0.2	6	mg/kg	-	-	0.0015	U
	1,1,1-Trichloroethane	71-55-6		30	600	1400			3	225	mg/kg	-	-	0.0015	U
	1,1,2-Trichloroethane	79-00-5		0.1	2	91			0.1	1	mg/kg	-	-	0.0015	U
	Trichloroethene	79-01-6		0.3	0.3	810			0.1	0.3	mg/kg	-	-	0.0015	U
	Trichlorofluoromethane	75-69-4		1000	10000				100	2500	mg/kg	-	-	0.0074	U
	1,2,3-Trichloropropane	96-18-4		100	1000				10	500	mg/kg	-	-	0.0015	U
	1,2,4-Trimethylbenzene	95-63-6		1000	10000				100	2500	mg/kg	-	-	0.0015	U
	1,3,5-Trimethylbenzene	108-67-8		10	100				1	75	mg/kg	-	-	0.0015	U
	Vinyl chloride	75-01-4		0.7	0.7	12			0.1	0.7	mg/kg	-	-	0.0074	U
	p/m-Xylene	179601-23-1		100	100	270			10	100	mg/kg	-	-	0.0029	U
	o-Xylene	95-47-6		100	100	270			10	100	mg/kg	-	-	0.0015	U
	Total VOCs						10	4			mg/kg	-	-	0.0085	
Petroleum Hydrocarbon Quantitation															
	TPH (C9-C36)	TPHC9-C36		1000	3000	500	5000	2500	500	2500	mg/kg	760		-	-

Yellow shading indicates detected result is equal to or above one or more of the listed criteria, except for MA Background Level Natural soil.
Gray shading indicates nondetect detection limit is above one or more of the listed criteria, except for MA Background Level Natural soil.
RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effective April 25, 2014.
RCS-2-14: MCP 2014 RCS-2 Reportable Concentrations Criteria effective April 25, 2014.
BUD-S3/G3: MassDEP Proposed S3, GW-3 Beneficial Use Determination (BUD) Values Criteria per Draft Interim Guidance Document effective March 18, 2004.
MA-BLNS: Background Level Natural soil current as of 10/24/07
MA-LLAND: Lined Landfill Limits current as of August, 1997
MA-ULAND: UnLined Landfill Limits current as of August, 1997
TRC-SSSR-GLX: Site Specific Soil Reuse Criteria: Vehicle Maintenance Facility for GLX Project Criteria per client-provided Table X February 21, 2018.
Saugus: Acceptance Criteria for Aggregate Industries - Saugus Quarry, Table 1.
U - Not detected at the reported detection limit for the sample.
J - Estimated value.

TRC
2 Liberty Sq., 6th Floor
Boston, MA 02109
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November 17, 2022

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Soil containing hazardous wastes from RTN 3-34742 was generated to facilitate construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station. RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The soil contained the listed hazardous waste(s) with waste code: U210, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results mg/kg	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
WashStLandscape	GLC-WASHSTLANDSCAPE-VOC(3)	11/3/2022	Tetrachloroethene (127-18-4)	0.0045	1 mg/kg	10 mg/kg	30 mg/kg

Tetrachloroethene (PCE) – Analytical results equal 0.0045 mg/kg (below S-1 standards).

The sample included in **Table 1-1** is included in this proposed contained-in determination.

Sample GLC-WASHSTLANDSCAPE-VOC(3) was collected from a soil stockpile generated from site landscaping at the Washington Street Pump Station. A field geologist screened the soil from eight discreet locations with a photoionization detector (PID) during sampling for the presence of total volatile organic compounds (TVOCs). The corresponding volatile organic compound (VOC) sample was collected from the discrete location exhibiting the highest TVOC reading. The sampled stockpile is covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for the stockpile is also tracked using a geographic information system (GIS) application created for the project. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil.

The sample included in this contained-in determination represents a volume of up to 260 cubic yards. Analytical data for the eligible sample is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The stockpile generation location is shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpile's staging location on site at the time of sampling is shown in **Figure 2**.

Soils from the Washington Street Pump Station have been included in several contained-in determinations submitted to MassDEP. In-situ samples were included in a contained-in determination that was submitted to MassDEP in December 2014 due to detectable PCE and trichloroethene (TCE) below Massachusetts Contingency Plan (MCP) S-1 standards; however, to meet current performance standards and to be consistent with on-going project soil management practices, additional contained-in determinations were prepared with updated characterization data to facilitate the disposal of soil. Soil generated from the Washington Street Pump Station were included in contained-in determinations that were submitted to MassDEP in September 2020, June 2021 (revised and resubmitted in July 2021), July 2021, November 2021, January 2022, March 2022, April 2022, and September 2022 due to PCE and select TCE and 1,1,1-trichloroethane (1,1,1-TCA) detections below MCP S-1 standards. The most recent Contained-In Determination is attached as **Appendix B**, which includes the other aforementioned Contained-In Determinations as attachments. The December

2014, September 2020, revised June 2021, July 2021, two November 2021, two January 2022, March 2022, April 2022, and September 2022 contained-in determinations are also available on MassDEP's online database under transaction IDs 706656, 1221372, 1297119, 1297120, 1318479, 1320846, 1326493, 1336446, 1344804, 1359845, and 1416517 respectively.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

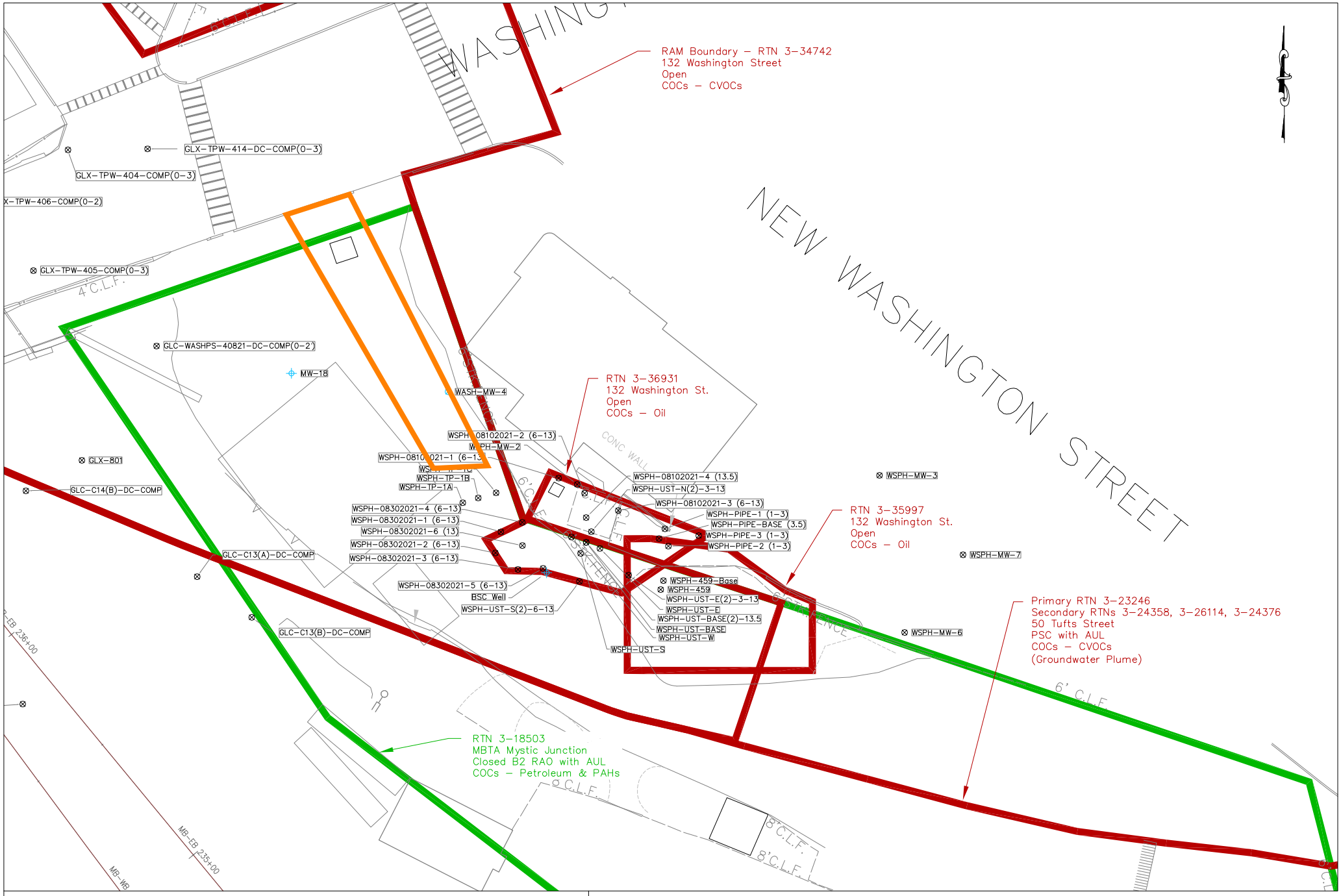
I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By: _____ 11/17/2022
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Figure 1 – Stockpile Generation Location
Figure 2 – Stockpile Staging Location
Table 1 – Summary of Soil Sample Analytical Results
Appendix A – Laboratory Report
Appendix B – September 2022 Contained-In

FIGURES

Figure 1 - Generation Location



GLXC MASTER CAD FILE – ALL
BORINGS/MONITORING WELLS 02/01/2022

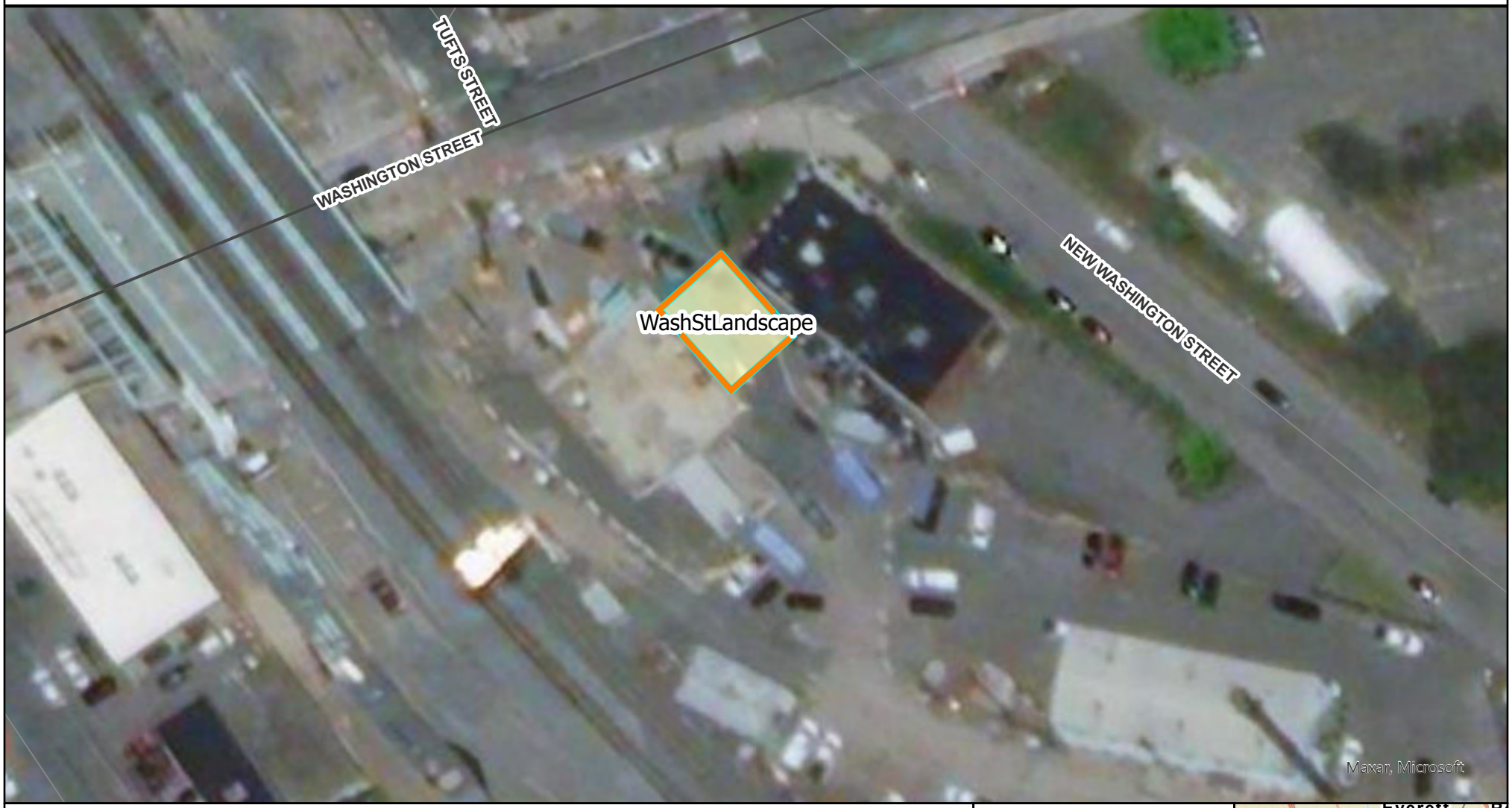
0 10 20 Feet

LEGEND

- BORING
- WELL
- RTN Closed with AUL
- RTN Closed
- RTN Open

Stockpile Generation Area

Figure 2: Stockpile Location



Legend

Stockpile relevant to Contained-In Determination

N

0 20 40 Feet

1 inch = 58 ft

DRAWN BY: JCM | CHECKED BY: LV

DATE:11/07/22

TABLES

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
November 3, 2022

						LOCATION	GLC-WASHSTLANDSCAPE-VOC(3)	
						SAMPLING DATE	11/3/2022	
						LAB SAMPLE ID	L2261771-02	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0055	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0011	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0016	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0011	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0011	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.0011	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0011	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0045	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00055	U
	Trichlorofluoromethane	75-69-4	1000	10000		mg/kg	0.0044	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0011	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00055	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00055	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.0011	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00055	U
	1,3-Dichloropropene, Total	542-75-6				mg/kg	0.00055	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00055	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0044	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00055	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00055	U
	Toluene	108-88-3	30	500	500	mg/kg	0.0011	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0011	U
	Chloromethane	74-87-3				mg/kg	0.0044	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0022	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.0011	U
	Chloroethane	75-00-3				mg/kg	0.0022	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0011	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0016	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00055	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0022	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0022	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0022	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0022	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0022	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0011	U
	Xylenes, Total	1330-20-7				mg/kg	0.0011	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0011	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.0011	U
	Dibromomethane	74-95-3				mg/kg	0.0022	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0022	U
	Styrene	100-42-5	3	4	70	mg/kg	0.0011	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.011	U
	Acetone	67-64-1	6	50	400	mg/kg	0.028	U
	Carbon disulfide	75-15-0				mg/kg	0.011	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.011	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.011	U
	2-Hexanone	591-78-6				mg/kg	0.011	U
	Bromochloromethane	74-97-5				mg/kg	0.0022	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0044	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0022	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.0011	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0022	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00055	U
	Bromobenzene	108-86-1				mg/kg	0.0022	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0022	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0022	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0022	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0033	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0044	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0044	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0022	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0022	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0022	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0022	U
	Diethyl ether	60-29-7				mg/kg	0.0022	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0022	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0022	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0022	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.088	U
	Total VOCs					mg/kg	0.0045	

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A
LAB REPORTS

ANALYTICAL REPORT

Lab Number:	L2261771
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Lars Andresen
Phone:	(617) 385-6038
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0032.0000P3T4
Report Date:	11/07/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
~~L2261771-01~~	~~GLC-WASHSTLANDSCAPE-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~11/03/22 08:15~~	~~11/03/22~~
L2261771-02	GLC-WASHSTLANDSCAPE-VOC(3)	SOIL	SOMERVILLE, MA	11/03/22 08:00	11/03/22

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2261771
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/07/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2261771
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/07/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2261771
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/07/22

Case Narrative (continued)

Report Submission

November 07, 2022: This final report includes the results of all requested analyses.

November 07, 2022: This is a preliminary report.

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2261771-02: Initial calibration utilized a quadratic fit for: trans-1,3-dichloropropene, 1,1,1,2-tetrachloroethane

In reference to question H:

L2261771-02: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,2-dichloropropane (0.1907), bromodichloromethane (0.2711), 1,4-dioxane (0.0033)

Average Response Factor: 1,4-dioxane

L2261771-02: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Pesticides

In reference to question H:

The WG1707992-2 LCS recoveries, associated with L2261771-01, are above the acceptance criteria for endrin ketone (3220%), dieldrin (162%), 4,4'-dde (155%), 4,4'-ddt (164%); however, the associated sample is

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2261771
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/07/22

Case Narrative (continued)

non-detect for these target analytes. The results of the original analysis are reported. The WG1707992-2/-3 LCS/LCSD RPDs are above the acceptance criteria for endrin ketone (187%), dieldrin (47%), 4,4'-dde (50%), and 4,4'-ddt (31%).

WG1707992-2: The surrogate recoveries are outside the individual acceptance criteria for decachlorobiphenyl (7792%, 8653%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 11/07/22

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Organochlorine Pesticides - Westborough Lab								
8081B	Batch QC	WG1707992-2	Endrin ketone (A)	LCS	3220	40-140	01	potential high bias
8081B	Batch QC	WG1707992-2	Dieldrin (A)	LCS	162	40-140	01	potential high bias
8081B	Batch QC	WG1707992-2	4,4'-DDE (A)	LCS	155	40-140	01	potential high bias
8081B	Batch QC	WG1707992-2	4,4'-DDT (A)	LCS	164	40-140	01	potential high bias
8081B	Batch QC	WG1707992-2	Decachlorobiphenyl (A)	Surrogate	7792	30-150	-	potential high bias
8081B	Batch QC	WG1707992-2	Decachlorobiphenyl (B)	Surrogate	8653	30-150	-	potential high bias
8081B	Batch QC	WG1707992-3	Endrin ketone (A)	LCSD	187	30	01	non-directional bias
8081B	Batch QC	WG1707992-3	Dieldrin (A)	LCSD	47	30	01	non-directional bias
8081B	Batch QC	WG1707992-3	4,4'-DDE (A)	LCSD	50	30	01	non-directional bias
8081B	Batch QC	WG1707992-3	4,4'-DDT (A)	LCSD	31	30	01	non-directional bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2261771

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/07/22

SAMPLE RESULTS

Lab ID: L2261771-02
Client ID: GLC-WASHSTLANDSCAPE-VOC(3)
Sample Location: SOMERVILLE, MA

Date Collected: 11/03/22 08:00
Date Received: 11/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 11/04/22 09:15
Analyst: NLK
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.5	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.6	--	1
Carbon tetrachloride	ND		ug/kg	1.1	--	1
1,2-Dichloropropane	ND		ug/kg	1.1	--	1
Dibromochloromethane	ND		ug/kg	1.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	--	1
Tetrachloroethene	4.5		ug/kg	0.55	--	1
Chlorobenzene	ND		ug/kg	0.55	--	1
Trichlorofluoromethane	ND		ug/kg	4.4	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.55	--	1
Bromodichloromethane	ND		ug/kg	0.55	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.55	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.55	--	1
1,1-Dichloropropene	ND		ug/kg	0.55	--	1
Bromoform	ND		ug/kg	4.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.55	--	1
Benzene	ND		ug/kg	0.55	--	1
Toluene	ND		ug/kg	1.1	--	1
Ethylbenzene	ND		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.4	--	1
Bromomethane	ND		ug/kg	2.2	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2261771

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/07/22

SAMPLE RESULTS

Lab ID: L2261771-02 Date Collected: 11/03/22 08:00

Client ID: GLC-WASHSTLANDSCAPE-VOC(3) Date Received: 11/03/22

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.55	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	--	1
Methyl tert butyl ether	ND		ug/kg	2.2	--	1
p/m-Xylene	ND		ug/kg	2.2	--	1
o-Xylene	ND		ug/kg	1.1	--	1
Xylenes, Total	ND		ug/kg	1.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	--	1
Dibromomethane	ND		ug/kg	2.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	ND		ug/kg	28	--	1
Carbon disulfide	ND		ug/kg	11	--	1
Methyl ethyl ketone	ND		ug/kg	11	--	1
Methyl isobutyl ketone	ND		ug/kg	11	--	1
2-Hexanone	ND		ug/kg	11	--	1
Bromochloromethane	ND		ug/kg	2.2	--	1
Tetrahydrofuran	ND		ug/kg	4.4	--	1
2,2-Dichloropropane	ND		ug/kg	2.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.55	--	1
Bromobenzene	ND		ug/kg	2.2	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.2	--	1
o-Chlorotoluene	ND		ug/kg	2.2	--	1
p-Chlorotoluene	ND		ug/kg	2.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	--	1
Hexachlorobutadiene	ND		ug/kg	4.4	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	ND		ug/kg	1.1	--	1
Naphthalene	ND		ug/kg	4.4	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2261771

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/07/22

SAMPLE RESULTS

Lab ID: L2261771-02 Date Collected: 11/03/22 08:00

Client ID: GLC-WASHSTLANDSCAPE-VOC(3) Date Received: 11/03/22

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	--	1
Diethyl ether	ND		ug/kg	2.2	--	1
Diisopropyl Ether	ND		ug/kg	2.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.2	--	1
1,4-Dioxane	ND		ug/kg	88	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	116		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2261771

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 11/04/22 08:43
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1708214-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2261771

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 11/04/22 08:43
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1708214-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2261771
Report Date: 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 11/04/22 08:43
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1708214-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	117		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1708214-3 WG1708214-4								
Methylene chloride	109		114		70-130	4		20
1,1-Dichloroethane	101		106		70-130	5		20
Chloroform	103		107		70-130	4		20
Carbon tetrachloride	101		107		70-130	6		20
1,2-Dichloropropane	99		104		70-130	5		20
Dibromochloromethane	89		94		70-130	5		20
1,1,2-Trichloroethane	83		86		70-130	4		20
Tetrachloroethene	97		105		70-130	8		20
Chlorobenzene	97		104		70-130	7		20
Trichlorofluoromethane	103		107		70-130	4		20
1,2-Dichloroethane	102		106		70-130	4		20
1,1,1-Trichloroethane	102		107		70-130	5		20
Bromodichloromethane	102		108		70-130	6		20
trans-1,3-Dichloropropene	84		87		70-130	4		20
cis-1,3-Dichloropropene	91		94		70-130	3		20
1,1-Dichloropropene	85		90		70-130	6		20
Bromoform	74		76		70-130	3		20
1,1,2,2-Tetrachloroethane	86		86		70-130	0		20
Benzene	98		103		70-130	5		20
Toluene	92		98		70-130	6		20
Ethylbenzene	93		99		70-130	6		20
Chloromethane	92		97		70-130	5		20
Bromomethane	84		93		70-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1708214-3 WG1708214-4								
Vinyl chloride	92		97		70-130	5		20
Chloroethane	100		104		70-130	4		20
1,1-Dichloroethene	102		108		70-130	6		20
trans-1,2-Dichloroethene	102		106		70-130	4		20
Trichloroethene	85		88		70-130	3		20
1,2-Dichlorobenzene	98		102		70-130	4		20
1,3-Dichlorobenzene	97		102		70-130	5		20
1,4-Dichlorobenzene	97		102		70-130	5		20
Methyl tert butyl ether	102		102		70-130	0		20
p/m-Xylene	100		104		70-130	4		20
o-Xylene	98		102		70-130	4		20
cis-1,2-Dichloroethene	103		109		70-130	6		20
Dibromomethane	102		106		70-130	4		20
1,2,3-Trichloropropane	83		85		70-130	2		20
Styrene	94		99		70-130	5		20
Dichlorodifluoromethane	81		82		70-130	1		20
Acetone	90		80		70-130	12		20
Carbon disulfide	70		74		70-130	6		20
Methyl ethyl ketone	90		85		70-130	6		20
Methyl isobutyl ketone	92		87		70-130	6		20
2-Hexanone	84		81		70-130	4		20
Bromochloromethane	109		114		70-130	4		20
Tetrahydrofuran	88		91		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1708214-3 WG1708214-4								
2,2-Dichloropropane	101		104		70-130	3		20
1,2-Dibromoethane	85		88		70-130	3		20
1,3-Dichloropropane	92		96		70-130	4		20
1,1,1,2-Tetrachloroethane	86		91		70-130	6		20
Bromobenzene	95		99		70-130	4		20
n-Butylbenzene	92		98		70-130	6		20
sec-Butylbenzene	91		96		70-130	5		20
tert-Butylbenzene	91		95		70-130	4		20
o-Chlorotoluene	93		97		70-130	4		20
p-Chlorotoluene	93		98		70-130	5		20
1,2-Dibromo-3-chloropropane	75		77		70-130	3		20
Hexachlorobutadiene	92		97		70-130	5		20
Isopropylbenzene	90		95		70-130	5		20
p-Isopropyltoluene	95		100		70-130	5		20
Naphthalene	86		90		70-130	5		20
n-Propylbenzene	91		95		70-130	4		20
1,2,3-Trichlorobenzene	94		100		70-130	6		20
1,2,4-Trichlorobenzene	96		101		70-130	5		20
1,3,5-Trimethylbenzene	95		101		70-130	6		20
1,2,4-Trimethylbenzene	95		100		70-130	5		20
Diethyl ether	104		106		70-130	2		20
Diisopropyl Ether	103		106		70-130	3		20
Ethyl-Tert-Butyl-Ether	102		103		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2261771

Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1708214-3 WG1708214-4								
Tertiary-Amyl Methyl Ether	101		101		70-130	0		20
1,4-Dioxane	90		91		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		105		70-130
Toluene-d8	96		98		70-130
4-Bromofluorobenzene	95		95		70-130
Dibromofluoromethane	111		111		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2261771
Report Date: 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 11/04/22 02:15
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 11/03/22 16:30

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1707865-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	170	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	140	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	140	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2261771
Report Date: 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 11/04/22 02:15
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 11/03/22 16:30

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1707865-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	170	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2261771
Report Date: 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 11/04/22 02:15
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 11/03/22 16:30

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1707865-1					
Biphenyl	ND		ug/kg	32	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	73		30-130
Phenol-d6	73		30-130
Nitrobenzene-d5	71		30-130
2-Fluorobiphenyl	72		30-130
2,4,6-Tribromophenol	81		30-130
4-Terphenyl-d14	71		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1707865-2 WG1707865-3								
Acenaphthene	72		69		40-140	4		30
1,2,4-Trichlorobenzene	73		68		40-140	7		30
Hexachlorobenzene	81		76		40-140	6		30
Bis(2-chloroethyl)ether	69		62		40-140	11		30
2-Chloronaphthalene	75		71		40-140	5		30
1,2-Dichlorobenzene	67		60		40-140	11		30
1,3-Dichlorobenzene	66		57		40-140	15		30
1,4-Dichlorobenzene	66		58		40-140	13		30
3,3'-Dichlorobenzidine	70		66		40-140	6		30
2,4-Dinitrotoluene	78		77		40-140	1		30
2,6-Dinitrotoluene	77		75		40-140	3		30
Azobenzene	83		81		40-140	2		30
Fluoranthene	74		71		40-140	4		30
4-Bromophenyl phenyl ether	77		75		40-140	3		30
Bis(2-chloroisopropyl)ether	48		44		40-140	9		30
Bis(2-chloroethoxy)methane	72		69		40-140	4		30
Hexachlorobutadiene	76		68		40-140	11		30
Hexachloroethane	67		60		40-140	11		30
Isophorone	73		70		40-140	4		30
Naphthalene	71		66		40-140	7		30
Nitrobenzene	76		72		40-140	5		30
Bis(2-ethylhexyl)phthalate	82		81		40-140	1		30
Butyl benzyl phthalate	73		71		40-140	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1707865-2 WG1707865-3								
Di-n-butylphthalate	75		72		40-140	4		30
Di-n-octylphthalate	80		78		40-140	3		30
Diethyl phthalate	79		76		40-140	4		30
Dimethyl phthalate	77		73		40-140	5		30
Benzo(a)anthracene	77		77		40-140	0		30
Benzo(a)pyrene	76		73		40-140	4		30
Benzo(b)fluoranthene	79		75		40-140	5		30
Benzo(k)fluoranthene	71		68		40-140	4		30
Chrysene	77		73		40-140	5		30
Acenaphthylene	79		75		40-140	5		30
Anthracene	73		71		40-140	3		30
Benzo(ghi)perylene	70		68		40-140	3		30
Fluorene	78		76		40-140	3		30
Phenanthrene	71		69		40-140	3		30
Dibenzo(a,h)anthracene	71		68		40-140	4		30
Indeno(1,2,3-cd)pyrene	78		76		40-140	3		30
Pyrene	72		71		40-140	1		30
Aniline	62		57		40-140	8		30
4-Chloroaniline	79		76		40-140	4		30
Dibenzofuran	77		76		40-140	1		30
2-Methylnaphthalene	74		69		40-140	7		30
Acetophenone	70		65		40-140	7		30
2,4,6-Trichlorophenol	83		79		30-130	5		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1707865-2 WG1707865-3								
2-Chlorophenol	74		68		30-130	8		30
2,4-Dichlorophenol	80		76		30-130	5		30
2,4-Dimethylphenol	72		68		30-130	6		30
2-Nitrophenol	72		66		30-130	9		30
4-Nitrophenol	96		95		30-130	1		30
2,4-Dinitrophenol	79		75		30-130	5		30
Pentachlorophenol	86		80		30-130	7		30
Phenol	72		68		30-130	6		30
2-Methylphenol	75		72		30-130	4		30
3-Methylphenol/4-Methylphenol	82		79		30-130	4		30
2,4,5-Trichlorophenol	84		81		30-130	4		30
Pyridine	52		44		30-130	17		30
Biphenyl	72		68		40-140	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	77		69		30-130
Phenol-d6	77		73		30-130
Nitrobenzene-d5	73		70		30-130
2-Fluorobiphenyl	75		72		30-130
2,4,6-Tribromophenol	84		80		30-130
4-Terphenyl-d14	69		67		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2261771
Report Date: 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 11/04/22 11:10
Analyst: SC

Extraction Method: EPA 3546
Extraction Date: 11/03/22 10:44

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1707735-1					
TPH (C10-C36)	ND		ug/kg	32800	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	64		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2261771

Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1707735-2								
TPH (C10-C36)	74		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	74				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2261771
Report Date: 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 11/07/22 07:37
Analyst: ER

Extraction Method: EPA 3540C
Extraction Date: 11/06/22 09:40
Cleanup Method: EPA 3665A
Cleanup Date: 11/07/22
Cleanup Method: EPA 3660B
Cleanup Date: 11/07/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1708658-1						
Aroclor 1016	ND		ug/kg	33.3	--	A
Aroclor 1221	ND		ug/kg	33.3	--	A
Aroclor 1232	ND		ug/kg	33.3	--	A
Aroclor 1242	ND		ug/kg	33.3	--	A
Aroclor 1248	ND		ug/kg	33.3	--	A
Aroclor 1254	ND		ug/kg	33.3	--	A
Aroclor 1260	ND		ug/kg	33.3	--	A
Aroclor 1262	ND		ug/kg	33.3	--	A
Aroclor 1268	ND		ug/kg	33.3	--	A
PCBs, Total	ND		ug/kg	33.3	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	73		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	79		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1708658-2 WG1708658-3									
Aroclor 1016	94		86		40-140	9		30	A
Aroclor 1260	92		78		40-140	16		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		80		30-150	B
Decachlorobiphenyl	73		72		30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		64		30-150	A
Decachlorobiphenyl	73		65		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2261771
Report Date: 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 11/04/22 14:34
Analyst: MSF

Extraction Method: EPA 8151A
Extraction Date: 11/04/22 03:32

Methylation Date: 11/04/22 12:45

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 01 Batch: WG1707991-1						
MCPP	ND		ug/kg	3300	--	A
MCPA	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
Dichloroprop	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	85		30-150	A
DCAA	70		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2261771
Report Date: 11/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 11/04/22 09:15
Analyst: AKM

Extraction Method: EPA 3546
Extraction Date: 11/04/22 03:44
Cleanup Method: EPA 3620B
Cleanup Date: 11/04/22
Cleanup Method: EPA 3660B
Cleanup Date: 11/04/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01 Batch: WG1707992-1						
Delta-BHC	ND		ug/kg	1.52	--	A
Lindane	ND		ug/kg	0.508	--	A
Alpha-BHC	ND		ug/kg	0.634	--	A
Beta-BHC	ND		ug/kg	1.52	--	A
Heptachlor	ND		ug/kg	0.761	--	A
Aldrin	ND		ug/kg	1.52	--	A
Heptachlor epoxide	ND		ug/kg	2.86	--	A
Endrin	ND		ug/kg	0.634	--	A
Endrin ketone	ND		ug/kg	1.52	--	A
Dieldrin	ND		ug/kg	0.952	--	A
4,4'-DDE	ND		ug/kg	1.52	--	A
4,4'-DDD	ND		ug/kg	1.52	--	A
4,4'-DDT	ND		ug/kg	2.86	--	A
Endosulfan I	ND		ug/kg	1.52	--	A
Endosulfan II	ND		ug/kg	1.52	--	A
Endosulfan sulfate	ND		ug/kg	0.634	--	A
Methoxychlor	ND		ug/kg	2.86	--	A
Chlordane	ND		ug/kg	12.7	--	A
Hexachlorobenzene	ND		ug/kg	1.52	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	79		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 01 Batch: WG1707991-2 WG1707991-3									
MCPP	66		68		40-140	3		30	A
MCPA	61		62		40-140	2		30	A
Dalapon	54		57		40-140	5		30	A
Dicamba	66		67		40-140	2		30	A
Dichloroprop	75		77		40-140	3		30	A
2,4-D	67		70		40-140	4		30	A
2,4-DB	52		55		40-140	6		30	A
2,4,5-T	61		62		40-140	2		30	A
2,4,5-TP (Silvex)	60		61		40-140	2		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	66		70		30-150	A
DCAA	74		71		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01 Batch: WG1707992-2 WG1707992-3									
Delta-BHC	95		107		40-140	12		30	A
Lindane	86		98		40-140	13		30	A
Alpha-BHC	85		97		40-140	13		30	A
Beta-BHC	90		98		40-140	9		30	A
Heptachlor	89		101		40-140	13		30	A
Aldrin	76		86		40-140	12		30	A
Heptachlor epoxide	84		81		40-140	4		30	A
Endrin	105		97		40-140	8		30	A
Endrin ketone	**3220**	Q	111		40-140	**187**	Q	30	A
Dieldrin	**162**	Q	100		40-140	**47**	Q	30	A
4,4'-DDE	**155**	Q	93		40-140	**50**	Q	30	A
4,4'-DDD	140		120		40-140	15		30	A
4,4'-DDT	**164**	Q	120		40-140	**31**	Q	30	A
Endosulfan I	100		86		40-140	15		30	A
Endosulfan II	107		97		40-140	10		30	A
Endosulfan sulfate	92		88		40-140	4		30	A
Methoxychlor	128		130		40-140	2		30	A
Hexachlorobenzene	64		71		40-140	10		30	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01 Batch: WG1707992-2 WG1707992-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		69		30-150	A
Decachlorobiphenyl	**7792**	Q	87		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		71		30-150	B
Decachlorobiphenyl	**8653**	Q	85		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2261771

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/07/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1708098-1										
Mercury, Total	ND		mg/kg	0.083	--	1	11/04/22 11:15	11/04/22 15:07	97,7471B	ZK

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1708107-1										
Antimony, Total	ND		mg/kg	2.00	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Arsenic, Total	ND		mg/kg	0.400	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Barium, Total	ND		mg/kg	0.400	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Beryllium, Total	ND		mg/kg	0.200	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Cadmium, Total	ND		mg/kg	0.400	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Chromium, Total	ND		mg/kg	0.400	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Lead, Total	ND		mg/kg	2.00	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Nickel, Total	ND		mg/kg	1.00	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Selenium, Total	ND		mg/kg	2.00	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Silver, Total	ND		mg/kg	0.400	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Thallium, Total	ND		mg/kg	2.00	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Vanadium, Total	ND		mg/kg	0.400	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB
Zinc, Total	ND		mg/kg	2.00	--	1	11/04/22 10:40	11/04/22 12:26	97,6010D	NTB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2261771

Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1708098-2 WG1708098-3 SRM Lot Number: D113-540								
Mercury, Total	89		87		60-140	2		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1708107-2 WG1708107-3 SRM Lot Number: D113-540								
Antimony, Total	159		168		20-250	6		30
Arsenic, Total	92		93		70-130	1		30
Barium, Total	86		89		75-125	3		30
Beryllium, Total	91		98		75-125	7		30
Cadmium, Total	89		89		75-125	0		30
Chromium, Total	89		93		70-130	4		30
Lead, Total	88		88		72-128	0		30
Nickel, Total	88		90		70-130	2		30
Selenium, Total	98		96		66-134	2		30
Silver, Total	92		92		70-131	0		30
Thallium, Total	96		96		70-130	0		30
Vanadium, Total	89		89		74-126	0		30
Zinc, Total	85		86		70-130	1		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

SAMPLE RESULTS

Lab ID: L2261771-02
Client ID: GLC-WASHSTLANDSCAPE-VOC(3)
Sample Location: SOMERVILLE, MA

Date Collected: 11/03/22 08:00
Date Received: 11/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.6		%	0.100	NA	1	-	11/03/22 20:53	121,2540G	MF

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2261771

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/07/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1708153-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	11/04/22 10:45	11/04/22 12:08	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1708155-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	11/04/22 10:45	11/04/22 12:39	125,7.3	MJ

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2261771

Report Date: 11/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1708153-2								
Sulfide, Reactive	84		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1708155-2								
Cyanide, Reactive	54		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1708359-1								
Specific Conductance	99		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1708361-1								
pH	100		-		99-101	-		

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2261771
Report Date: 11/07/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2261771-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2261771-01B	Glass 250ml/8oz unpreserved	A	NA		4.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2261771-01C	Glass 500ml/16oz unpreserved	A	NA		4.6	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2261771-02A	Vial MeOH preserved	A	NA		4.6	Y	Absent		MCP-8260HLG-21(14)
L2261771-02B	Vial water preserved	A	NA		4.6	Y	Absent	03-NOV-22 23:39	MCP-8260HLG-21(14)
L2261771-02C	Vial water preserved	A	NA		4.6	Y	Absent	03-NOV-22 23:39	MCP-8260HLG-21(14)
L2261771-02D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2261771
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/07/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2261771
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/07/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2261771
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/07/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2261771
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/07/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

(TRC)

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Rec'd in Lab: 11/03/22 | ALPHA Job #: L2261771

Client Information

Client: TRC Environmental Corp
Address: 2 Liberty Square
Boston, MA 02109
Phone: 617-476-1303
Fax:
Email: LAndresen@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: MBTA GLX Disposal Sampling
Project Location: Somerville, MA
Project #: 310142.0032.0000 Ph 3 Task 4
Project Manager: Lars Andresen
ALPHA Quote #: 7623R1

Turn-Around Time

☒ Standard ☒ Rush (ONLY IF PRE-APPROVED) 1 DAY
Due Date: Time:

Report Information — Data Deliverables

FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 165723

Regulatory Requirements/Report Limits

State/Fed Program: MCP — Criteria: RCS-1; <0.10 mg/kg PCBs and <5 mg/kg Selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, LVolk@"".com, SAWilson@"".com, GDiaz@"".com
Run TCLP for any analyte that fails the 20x Rule.
Run VOCs for Low Level first.

ANALYSIS

VOCs via 5035/8260C (Low Level) (1 vial) — SVOCs via 8270D — TPH via 8015C GC-FID Quantitation — PCBs via 8082A w/Soxhlet extraction — MCP 14 Metals via 6010C/7471B — Reactive Sulfide & Cyanide via 7.3 — TCLP Lead - See comment — Ignitability via 1030, pH via 9045 — Specific Conductance via 9050 — Pesticides and Herbicides

SAMPLE HANDLING
Filtration: ☐ Done ☒ Not Needed ☐ Lab to do
Preservation: ☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
61771-01	GLX-WashSt Landscape-comp	11/3/22	0815	Soil	SAW	
-02	GLX-WashSt Landscape-VOC (3)	11/3/22	0820	Soil	SAW	

☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	
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☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Container Type	V	A	A	A	A	A	A	A	A	A	A	-
Preservative	G	A	A	A	A	A	A	A	A	A	A	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO. 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
Sadie Wilson	11/3/22 1430	Rob Maerto ARL	11-3-22 1430
Rob Maerto	11.3.22		11.3.22 1940

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2261771
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4
Lab Sample ID	: WG1708214-5	**Lab File ID**	: V31221104A05
Instrument ID	: VOA131		
Matrix	: SOIL	**Analysis Date**	: 11/04/22 08:43

Client Sample No.	Lab Sample ID	Analysis Date
WG1708214-3LCS	WG1708214-3	11/04/22 07:36
WG1708214-4LCSD	WG1708214-4	11/04/22 07:58
GLC-WASHSTLANDSCAPE-VOA(3)	L2261771-02	11/04/22 09:15

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2261771	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.0000P3T4	
Instrument ID	: VOA131		**Calibration Date**	: 11/04/22 07:36	
Lab File ID	: V31221104A02		**Init. Calib. Date(s)**	: 09/15/22	09/16/22
Sample No	: WG1708214-2		**Init. Calib. Times**	: 21:47	01:58
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	87	0
Dichlorodifluoromethane	0.307	0.248	-	19.2	20	68	0
Chloromethane	0.339	0.313	-	7.7	20	79	0
Vinyl chloride	0.459	0.422	-	8.1	20	74	0
Bromomethane	0.34	0.286	-	15.9	20	72	0
Chloroethane	0.343	0.342	-	0.3	20	80	0
Trichlorofluoromethane	0.716	0.735	-	-2.7	20	85	0
Ethyl ether	0.16	0.166	-	-3.8	20	86	0
1,1-Dichloroethene	0.283	0.289	-	-2.1	20	85	0
Carbon disulfide	0.808	0.562	-	30.4*	20	58	0
Freon-113	0.285	0.298	-	-4.6	20	86	0
Acrolein	0.046	0.044	-	4.3	20	79	0
Methylene chloride	40	43.73	-	-9.3	20	83	0
Acetone	40	35.982	-	10	20	76	0
trans-1,2-Dichloroethene	0.297	0.303	-	-2	20	83	0
Methyl acetate	0.185	0.182	-	1.6	20	84	0
Methyl tert-butyl ether	0.501	0.513	-	-2.4	20	87	0
tert-Butyl alcohol	0.043	0.037	-	14	20	73	0
Diisopropyl ether	0.579	0.594	-	-2.6	20	85	0
1,1-Dichloroethane	0.539	0.543	-	-0.7	20	82	0
Halothane	0.202	0.206	-	-2	20	84	0
Acrylonitrile	0.094	0.09	-	4.3	20	75	0
Ethyl tert-butyl ether	0.592	0.602	-	-1.7	20	86	0
Vinyl acetate	0.426	0.42	-	1.4	20	85	0
cis-1,2-Dichloroethene	0.325	0.334	-	-2.8	20	83	0
2,2-Dichloropropane	0.42	0.425	-	-1.2	20	83	0
Bromochloromethane	0.159	0.173	-	-8.8	20	87	0
Cyclohexane	0.45	0.436	-	3.1	20	82	0
Chloroform	0.532	0.551	-	-3.6	20	86	0
Ethyl acetate	0.237	0.231	-	2.5	20	86	0
Carbon tetrachloride	0.376	0.38	-	-1.1	20	83	0
Tetrahydrofuran	0.086	0.076	-	11.6	20	73	0
Dibromofluoromethane	0.329	0.364	-	-10.6	20	96	0
1,1,1-Trichloroethane	0.402	0.41	-	-2	20	80	0
2-Butanone	0.131	0.117	-	10.7	20	77	0
1,1-Dichloropropene	40	34.182	-	14.5	20	77	0
Benzene	0.927	0.91	-	1.8	20	79	0
tert-Amyl methyl ether	0.525	0.53	-	-1	20	85	0
1,2-Dichloroethane-d4	0.335	0.355	-	-6	20	92	0
1,2-Dichloroethane	0.347	0.356	-	-2.6	20	84	0
Methyl cyclohexane	0.423	0.397	-	6.1	20	79	0
Trichloroethene	40	34.039	-	14.9	20	79	0
Dibromomethane	0.174	0.177	-	-1.7	20	82	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2261771	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.0000P3T4	
Instrument ID	: VOA131		**Calibration Date**	: 11/04/22 07:36	
Lab File ID	: V31221104A02		**Init. Calib. Date(s)**	: 09/15/22	09/16/22
Sample No	: WG1708214-2		**Init. Calib. Times**	: 21:47	01:58
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.238	0.235	-	1.3	20	80	0
2-Chloroethyl vinyl ether	0.13	0.128	-	1.5	20	78	0
Bromodichloromethane	0.325	0.331	-	-1.8	20	81	0
1,4-Dioxane	0.00387	0.00347*	-	10.3	20	72	0
cis-1,3-Dichloropropene	40	36.283	-	9.3	20	82	0
Chlorobenzene-d5	1	1	-	0	20	96	0
Toluene-d8	1.308	1.251	-	4.4	20	91	0
Toluene	0.791	0.732	-	7.5	20	85	0
4-Methyl-2-pentanone	0.106	0.098	-	7.5	20	84	0
Tetrachloroethene	0.305	0.297	-	2.6	20	86	0
trans-1,3-Dichloropropene	40	33.527	-	16.2	20	83	0
Ethyl methacrylate	0.341	0.321	-	5.9	20	85	0
1,1,2-Trichloroethane	40	33.381	-	16.5	20	84	0
Chlorodibromomethane	40	35.64	-	10.9	20	86	0
1,3-Dichloropropane	0.416	0.385	-	7.5	20	83	0
1,2-Dibromoethane	40	33.938	-	15.2	20	84	0
2-Hexanone	0.223	0.186	-	16.6	20	81	0
Chlorobenzene	0.887	0.857	-	3.4	20	87	0
Ethylbenzene	1.574	1.459	-	7.3	20	85	0
1,1,1,2-Tetrachloroethane	40	34.294	-	14.3	20	84	0
p/m Xylene	0.624	0.623	-	0.2	20	92	0
o Xylene	0.601	0.586	-	2.5	20	90	0
Styrene	1.02	0.964	-	5.5	20	88	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	107	0
Bromoform	40	29.78	-	25.5*	20	86	0
Isopropylbenzene	2.772	2.51	-	9.5	20	88	0
4-Bromofluorobenzene	0.811	0.774	-	4.6	20	100	0
Bromobenzene	0.651	0.617	-	5.2	20	92	0
n-Propylbenzene	3.428	3.121	-	9	20	90	0
1,4-Dichlorobutane	0.752	0.635	-	15.6	20	85	0
1,1,2,2-Tetrachloroethane	0.599	0.512	-	14.5	20	81	0
4-Ethyltoluene	2.79	2.691	-	3.5	20	95	0
2-Chlorotoluene	1.952	1.816	-	7	20	90	0
1,3,5-Trimethylbenzene	2.448	2.327	-	4.9	20	93	0
1,2,3-Trichloropropane	0.506	0.422	-	16.6	20	81	0
trans-1,4-Dichloro-2-buten	0.193	0.172	-	10.9	20	83	0
4-Chlorotoluene	2.015	1.876	-	6.9	20	92	0
tert-Butylbenzene	2.121	1.937	-	8.7	20	91	0
1,2,4-Trimethylbenzene	2.469	2.337	-	5.3	20	92	0
sec-Butylbenzene	3.201	2.914	-	9	20	90	0
p-Isopropyltoluene	2.768	2.627	-	5.1	20	93	0
1,3-Dichlorobenzene	1.368	1.331	-	2.7	20	97	0
1,4-Dichlorobenzene	1.386	1.348	-	2.7	20	98	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2261771	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.0000P3T4	
Instrument ID	: VOA131		**Calibration Date**	: 11/04/22 07:36	
Lab File ID	: V31221104A02		**Init. Calib. Date(s)**	: 09/15/22	09/16/22
Sample No	: WG1708214-2		**Init. Calib. Times**	: 21:47	01:58
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.67	1.599	-	4.3	20	94	0
n-Butylbenzene	2.603	2.403	-	7.7	20	91	0
1,2-Dichlorobenzene	1.296	1.271	-	1.9	20	97	0
1,2,4,5-Tetramethylbenzene	2.587	2.233	-	13.7	20	85	0
1,2-Dibromo-3-chloropropan	40	29.891	-	25.3*	20	76	0
1,3,5-Trichlorobenzene	1.032	1.02	-	1.2	20	98	0
Hexachlorobutadiene	0.485	0.447	-	7.8	20	92	0
1,2,4-Trichlorobenzene	0.962	0.918	-	4.6	20	94	0
Naphthalene	2.609	2.25	-	13.8	20	83	0
1,2,3-Trichlorobenzene	0.923	0.871	-	5.6	20	92	0

*** Value outside of QC limits.**

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2261771
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4
Instrument ID	: PEST11	**Analysis Date**	: 11/04/22 06:40
PEM Standard	: R1628788-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	908214.50909	944243.77839
Endrin	177886048	246025712
4,4'-DDD	704167.85272	1299296.29021
4,4'-DDT	263425350.32902	398541291.95531
Endrin Aldehyde	0	0
Endrin Ketone	891839.69038	1092276.664

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.499	0.442
DDT	0.608	0.560

APPENDIX B

SEPTEMBER 2022

CONTAINED-IN DETERMINATION

(Transaction #1416517)

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

September 8, 2022

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Soil containing hazardous wastes from RTN 3-34742 was generated to facilitate construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station. RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The soil contained the listed hazardous waste(s) with waste code: U210, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results mg/kg	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
WashPumpGrading 062322	GLC-WASHPUMPGRADING-062322-DC-VOC(7)	7/27/2022	Tetrachloroethene (127-18-4)	0.00058	1 mg/kg	10 mg/kg	30 mg/kg

Tetrachloroethene (PCE) – Analytical results equal 0.00058 mg/kg (below S-1 standards).

The sample included in **Table 1-1** is included in this proposed contained-in determination.

Sample GLC-WASHPUMPGRADING-062322-DC-VOC(7) was collected from a soil stockpile generated from site grading at the Washington Street Pump Station and from fence post installation adjacent to the Washington Street Pump Station. A field geologist screened the soil from eight discreet locations with a photoionization detector (PID) during sampling for the presence of total volatile organic compounds (TVOCs). The corresponding volatile organic compound (VOC) sample was collected from the discrete location exhibiting the highest TVOC reading. The sampled stockpile is covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for the stockpile is also tracked using a geographic information system (GIS) application created for the project. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil.

The sample included in this contained-in determination represents a volume of up to 80 cubic yards. Analytical data for the eligible sample is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The stockpile generation location is shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpile's staging location on site at the time of sampling is shown in **Figure 2**.

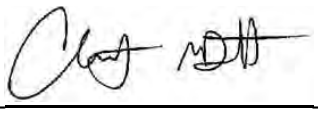
Soils from the Washington Street Pump Station have been included in several contained-in determinations submitted to MassDEP. In-situ samples were included in a contained-in determination that was submitted to MassDEP in December 2014 due to detectable PCE and trichloroethene (TCE) below Massachusetts Contingency Plan (MCP) S-1 standards; however, to meet current performance standards and to be consistent with on-going project soil management practices, additional contained-in determinations were prepared with updated characterization data to facilitate the disposal of soil. Soil generated from the Washington Street Pump Station were included in contained-in determinations that were submitted to MassDEP in September 2020, June 2021 (revised and resubmitted in July 2021), July 2021, November 2021, January 2022, March 2022, and April 2022 due to PCE and select TCE and 1,1,1-trichloroethane (1,1,1-TCA) detections below MCP S-1 standards. The most recent Contained-In Determination is attached as **Appendix B**, which includes the other

aforementioned Contained-In Determinations as attachments. The December 2014, September 2020, revised June 2021, July 2021, two November 2021, two January 2022, March 2022, and April 2022 contained-in determinations are also available on MassDEP's online database under transaction IDs 706656, 1221372, 1297119, 1297120, 1318479, 1320846, 1326493, 1336446, 1344804, and 1359845 respectively.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

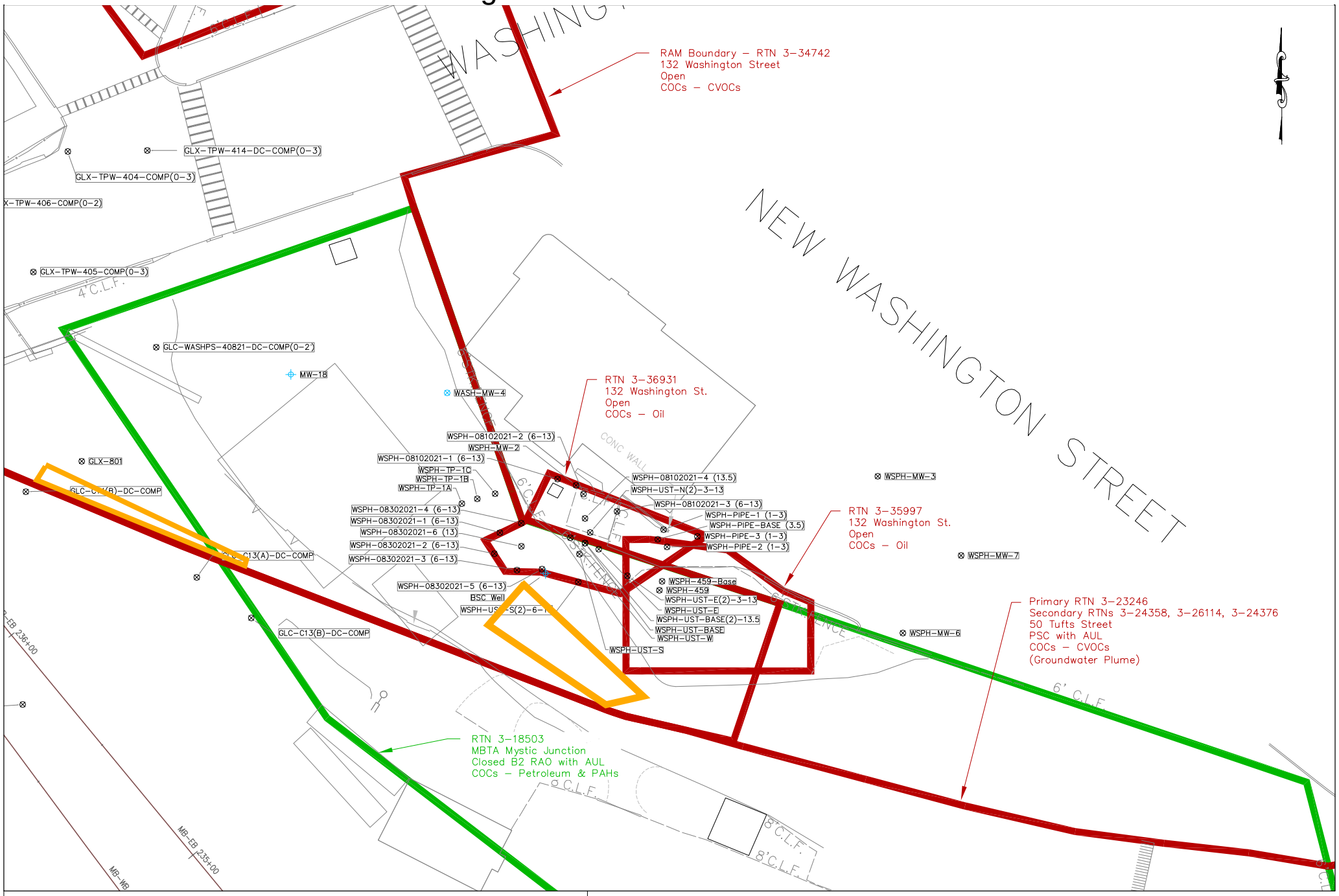
I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By:  9/8/2022
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Figure 1 – Stockpile Generation Locations
Figure 2 – Stockpile Staging Location
Table 1 – Summary of Soil Sample Analytical Results
Appendix A – Laboratory Report
Appendix B – April 2022 Contained-In

FIGURES

Figure 1- Generation Locations



GLXC MASTER CAD FILE – ALL
BORINGS/MONITORING WELLS 02/01/2022

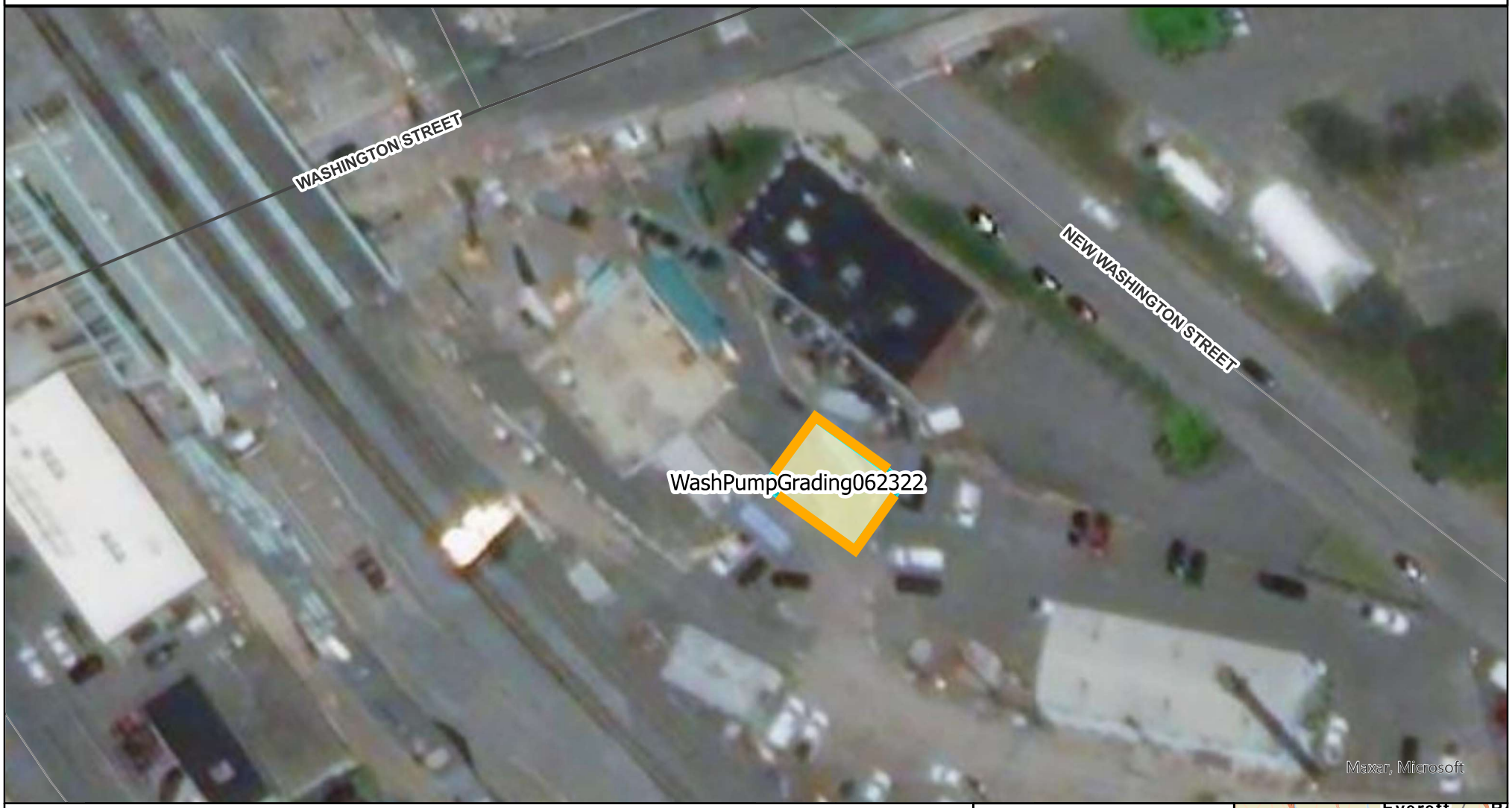
0 10 20 Feet

LEGEND

- BORING
- WELL
- RTN Closed with AUL
- RTN Closed
- RTN Open

Stockpile Generation Area

Figure 2: Stockpile Location



Legend

Stockpile relevant to Contained-In Determination

N

0 20 40 Feet

1 inch = 58 ft

DRAWN BY: JCM | CHECKED BY: LV

DATE: 08/16/22

TABLES

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July 27, 2022

						LOCATION	GLC-WASHPUMPGRADING-062322-DC-VOC(7)	
						SAMPLING DATE	7/27/2022	
						LAB SAMPLE ID	L2240165-01	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0052	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.001	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0016	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.001	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.001	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.001	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.001	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.00058	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00052	U
	Trichlorofluoromethane	75-69-4	1000	10000		mg/kg	0.0042	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.001	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00052	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00052	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.001	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00052	U
	1,3-Dichloropropene, Total	542-75-6				mg/kg	0.00052	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00052	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0042	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00052	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00052	U
	Toluene	108-88-3	30	500	500	mg/kg	0.001	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.001	U
	Chloromethane	74-87-3				mg/kg	0.0042	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0021	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.001	U
	Chloroethane	75-00-3				mg/kg	0.0021	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.001	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0016	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00052	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0021	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0021	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0021	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0021	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0021	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.001	U
	Xylenes, Total	1330-20-7				mg/kg	0.001	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.001	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.001	U
	Dibromomethane	74-95-3				mg/kg	0.0021	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0021	U
	Styrene	100-42-5	3	4	70	mg/kg	0.001	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.01	U
	Acetone	67-64-1	6	50	400	mg/kg	0.049	
	Carbon disulfide	75-15-0				mg/kg	0.01	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.01	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.01	U
	2-Hexanone	591-78-6				mg/kg	0.01	U
	Bromochloromethane	74-97-5				mg/kg	0.0021	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0042	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0021	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.001	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0021	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00052	U
	Bromobenzene	108-86-1				mg/kg	0.0021	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.001	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.001	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0021	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0021	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0021	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0031	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0042	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.001	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.001	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0042	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.001	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0021	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0021	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0021	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0021	U
	Diethyl ether	60-29-7				mg/kg	0.0021	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0021	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0021	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0021	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.083	U
	Total VOCs					mg/kg	0.04958	

Gray shading indicates nondetect detection limit is above one or more of the listed criteria, except for MA Background Level Natural soil.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A
LAB REPORTS

ANALYTICAL REPORT

Lab Number:	L2240165
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Lars Andresen
Phone:	(617) 385-6038
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0032 PH3 TK4
Report Date:	08/11/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2240165-01	GLC-WASHPUMPGRADING-062322-DC-VOC(7)	SOIL	SOMERVILLE, MA	07/27/22 11:30	07/27/22
~~L2240165-02~~	~~GLC-WASHPUMPGRADING-062322-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~07/27/22 11:40~~	~~07/27/22~~

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2240165
Project Number:	310142.0032 PH3 TK4	**Report Date:**	08/11/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2240165
Project Number:	310142.0032 PH3 TK4	**Report Date:**	08/11/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2240165
Project Number:	310142.0032 PH3 TK4	**Report Date:**	08/11/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

The WG1670225-3/-4 LCS/LCSD recoveries, associated with L2240165-01, are above the individual acceptance criteria for dichlorodifluoromethane (139%/140%) and acetone (LCS 150%), but within the overall method allowances. The results of the associated sample are reported; however, all positive detects for these compounds are considered to have a potentially high bias.

The WG1670225-3/-4 LCS/LCSD RPD, associated with L2240165-01, is above the acceptance criteria for acetone (31%).

L2240165-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0025)

Average Response Factor: 1,4-dioxane

L2240165-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L2240165-02: The initial calibration utilized a quadratic fit for 2,6-Dinitrotoluene , 2,4-Dinitrotoluene, and Pentachlorophenol.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2240165
Project Number:	310142.0032 PH3 TK4	**Report Date:**	08/11/22

Case Narrative (continued)

PCBs

In reference to question H:

The WG1668267-2/-3 LCS/LCSD RPDs, associated with L2240165-02, are above the acceptance criteria for aroclor 1016 (41%) and aroclor 1260 (46%).

Pesticides

In reference to question H:

L2240165-02: The surrogate recovery is outside the individual acceptance criteria for decachlorobiphenyl (180%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

Herbicides

In reference to question H:

The WG1672678-2/-3 LCS/LCSD recoveries, associated with L2240165-02, are above the acceptance criteria for mcpp (274%/295%), mcpa (171%/158%), and dichloroprop (156%/144%); however, the associated sample is non-detect to the RL for these target analytes. The results of the original analysis are reported.

Non-MCP Related Narratives

Petroleum Hydrocarbon Quantitation

L2240165-02D: The sample has an elevated detection limit due to the dilution required by the elevated concentration of target compound in the sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 08/11/22

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1670225-3	Dichlorodifluoromethane	LCS	139	70-130	01	potential high bias
8260D	Batch QC	WG1670225-3	Acetone	LCS	150	70-130	01	potential high bias
8260D	Batch QC	WG1670225-4	Dichlorodifluoromethane	LCSD	140	70-130	01	potential high bias
8260D	Batch QC	WG1670225-4	Acetone	LCSD	31	20	01	non-directional bias
MCP Polychlorinated Biphenyls - Westborough Lab								
8082A	Batch QC	WG1668267-3	Aroclor 1016 (A)	LCSD	41	30	02	non-directional bias
8082A	Batch QC	WG1668267-3	Aroclor 1260 (A)	LCSD	46	30	02	non-directional bias
MCP Chlorinated Herbicides - Westborough Lab								
8151A	Batch QC	WG1672678-2	MCPP	LCS	274	40-140	02	potential high bias
8151A	Batch QC	WG1672678-2	MCPA	LCS	171	40-140	02	potential high bias
8151A	Batch QC	WG1672678-2	Dichloroprop	LCS	156	40-140	02	potential high bias
8151A	Batch QC	WG1672678-3	MCPP	LCSD	295	40-140	02	potential high bias
8151A	Batch QC	WG1672678-3	MCPA	LCSD	158	40-140	02	potential high bias
8151A	Batch QC	WG1672678-3	Dichloroprop	LCSD	144	40-140	02	potential high bias
MCP Organochlorine Pesticides - Westborough Lab								
8081B	GLC-WASHPUMPGRADING-062322-DC-COMP	L2240165-02	Decachlorobiphenyl (B)	Surrogate	180	30-150	-	potential high bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2240165

Project Number: 310142.0032 PH3 TK4 **Report Date:** 08/11/22

SAMPLE RESULTS

Lab ID: L2240165-01
Client ID: GLC-WASHPUMPGRADING-062322-DC-VOC(7)
Sample Location: SOMERVILLE, MA

Date Collected: 07/27/22 11:30
Date Received: 07/27/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 07/29/22 16:55
Analyst: NLK
Percent Solids: 98%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.2	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.6	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	0.58		ug/kg	0.52	--	1
Chlorobenzene	ND		ug/kg	0.52	--	1
Trichlorofluoromethane	ND		ug/kg	4.2	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.52	--	1
Bromodichloromethane	ND		ug/kg	0.52	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.52	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.52	--	1
1,1-Dichloropropene	ND		ug/kg	0.52	--	1
Bromoform	ND		ug/kg	4.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.52	--	1
Benzene	ND		ug/kg	0.52	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.2	--	1
Bromomethane	ND		ug/kg	2.1	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.1	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2240165

Project Number: 310142.0032 PH3 TK4 **Report Date:** 08/11/22

SAMPLE RESULTS

Lab ID: L2240165-01 Date Collected: 07/27/22 11:30

Client ID: GLC-WASHPUMPGRADING-062322-DC-VOC(7) Date Received: 07/27/22

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.52	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.1	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	--	1
Methyl tert butyl ether	ND		ug/kg	2.1	--	1
p/m-Xylene	ND		ug/kg	2.1	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.1	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.1	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	49		ug/kg	26	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.1	--	1
Tetrahydrofuran	ND		ug/kg	4.2	--	1
2,2-Dichloropropane	ND		ug/kg	2.1	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.1	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.52	--	1
Bromobenzene	ND		ug/kg	2.1	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.1	--	1
o-Chlorotoluene	ND		ug/kg	2.1	--	1
p-Chlorotoluene	ND		ug/kg	2.1	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.1	--	1
Hexachlorobutadiene	ND		ug/kg	4.2	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.2	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2240165

Project Number: 310142.0032 PH3 TK4 **Report Date:** 08/11/22

SAMPLE RESULTS

Lab ID: L2240165-01 Date Collected: 07/27/22 11:30

Client ID: GLC-WASHPUMPGRADING-062322-DC-VOC(7) Date Received: 07/27/22

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.1	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	--	1
Diethyl ether	ND		ug/kg	2.1	--	1
Diisopropyl Ether	ND		ug/kg	2.1	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.1	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.1	--	1
1,4-Dioxane	ND		ug/kg	83	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	103		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2240165

Project Number: 310142.0032 PH3 TK4 **Report Date:** 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/29/22 10:15
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1670225-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2240165

Project Number: 310142.0032 PH3 TK4 **Report Date:** 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/29/22 10:15
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1670225-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2240165
Report Date: 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 07/29/22 10:15
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1670225-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1670225-3 WG1670225-4								
Methylene chloride	98		100		70-130	2		20
1,1-Dichloroethane	98		100		70-130	2		20
Chloroform	92		95		70-130	3		20
Carbon tetrachloride	88		91		70-130	3		20
1,2-Dichloropropane	96		99		70-130	3		20
Dibromochloromethane	86		88		70-130	2		20
1,1,2-Trichloroethane	93		96		70-130	3		20
Tetrachloroethene	90		93		70-130	3		20
Chlorobenzene	91		94		70-130	3		20
Trichlorofluoromethane	104		106		70-130	2		20
1,2-Dichloroethane	96		99		70-130	3		20
1,1,1-Trichloroethane	92		95		70-130	3		20
Bromodichloromethane	88		89		70-130	1		20
trans-1,3-Dichloropropene	91		94		70-130	3		20
cis-1,3-Dichloropropene	94		96		70-130	2		20
1,1-Dichloropropene	96		100		70-130	4		20
Bromoform	83		86		70-130	4		20
1,1,2,2-Tetrachloroethane	96		96		70-130	0		20
Benzene	94		96		70-130	2		20
Toluene	85		86		70-130	1		20
Ethylbenzene	90		92		70-130	2		20
Chloromethane	121		125		70-130	3		20
Bromomethane	107		107		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1670225-3 WG1670225-4								
Vinyl chloride	112		116		70-130	4		20
Chloroethane	115		115		70-130	0		20
1,1-Dichloroethene	97		103		70-130	6		20
trans-1,2-Dichloroethene	90		94		70-130	4		20
Trichloroethene	93		96		70-130	3		20
1,2-Dichlorobenzene	90		93		70-130	3		20
1,3-Dichlorobenzene	92		94		70-130	2		20
1,4-Dichlorobenzene	83		88		70-130	6		20
Methyl tert butyl ether	93		95		70-130	2		20
p/m-Xylene	90		93		70-130	3		20
o-Xylene	91		94		70-130	3		20
cis-1,2-Dichloroethene	90		93		70-130	3		20
Dibromomethane	92		94		70-130	2		20
1,2,3-Trichloropropane	99		100		70-130	1		20
Styrene	91		94		70-130	3		20
Dichlorodifluoromethane	**139**	Q	**140**	Q	70-130	1		20
Acetone	**150**	Q	110		70-130	**31**	Q	20
Carbon disulfide	103		106		70-130	3		20
Methyl ethyl ketone	103		105		70-130	2		20
Methyl isobutyl ketone	89		89		70-130	0		20
2-Hexanone	86		86		70-130	0		20
Bromochloromethane	90		91		70-130	1		20
Tetrahydrofuran	99		109		70-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1670225-3 WG1670225-4								
2,2-Dichloropropane	94		92		70-130	2		20
1,2-Dibromoethane	90		92		70-130	2		20
1,3-Dichloropropane	96		98		70-130	2		20
1,1,1,2-Tetrachloroethane	89		91		70-130	2		20
Bromobenzene	87		91		70-130	4		20
n-Butylbenzene	96		101		70-130	5		20
sec-Butylbenzene	94		96		70-130	2		20
tert-Butylbenzene	88		91		70-130	3		20
o-Chlorotoluene	92		96		70-130	4		20
p-Chlorotoluene	93		96		70-130	3		20
1,2-Dibromo-3-chloropropane	83		85		70-130	2		20
Hexachlorobutadiene	87		90		70-130	3		20
Isopropylbenzene	90		92		70-130	2		20
p-Isopropyltoluene	91		94		70-130	3		20
Naphthalene	84		88		70-130	5		20
n-Propylbenzene	94		97		70-130	3		20
1,2,3-Trichlorobenzene	88		92		70-130	4		20
1,2,4-Trichlorobenzene	87		93		70-130	7		20
1,3,5-Trimethylbenzene	92		95		70-130	3		20
1,2,4-Trimethylbenzene	90		93		70-130	3		20
Diethyl ether	96		98		70-130	2		20
Diisopropyl Ether	93		97		70-130	4		20
Ethyl-Tert-Butyl-Ether	92		96		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1670225-3 WG1670225-4								
Tertiary-Amyl Methyl Ether	87		90		70-130	3		20
1,4-Dioxane	90		89		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		106		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	101		100		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2240165
Report Date: 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/01/22 10:19
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 07/29/22 15:40

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1669114-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2240165
Report Date: 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/01/22 10:19
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 07/29/22 15:40

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1669114-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2240165
Report Date: 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 08/01/22 10:19
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 07/29/22 15:40

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1669114-1					
Biphenyl	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	73		30-130
Phenol-d6	76		30-130
Nitrobenzene-d5	76		30-130
2-Fluorobiphenyl	74		30-130
2,4,6-Tribromophenol	74		30-130
4-Terphenyl-d14	75		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1669114-2 WG1669114-3								
Acenaphthene	85		78		40-140	9		30
1,2,4-Trichlorobenzene	72		63		40-140	13		30
Hexachlorobenzene	74		68		40-140	8		30
Bis(2-chloroethyl)ether	82		72		40-140	13		30
2-Chloronaphthalene	76		66		40-140	14		30
1,2-Dichlorobenzene	74		66		40-140	11		30
1,3-Dichlorobenzene	75		66		40-140	13		30
1,4-Dichlorobenzene	73		64		40-140	13		30
3,3'-Dichlorobenzidine	63		59		40-140	7		30
2,4-Dinitrotoluene	91		84		40-140	8		30
2,6-Dinitrotoluene	78		71		40-140	9		30
Azobenzene	88		81		40-140	8		30
Fluoranthene	80		72		40-140	11		30
4-Bromophenyl phenyl ether	80		73		40-140	9		30
Bis(2-chloroisopropyl)ether	95		86		40-140	10		30
Bis(2-chloroethoxy)methane	82		71		40-140	14		30
Hexachlorobutadiene	72		67		40-140	7		30
Hexachloroethane	75		65		40-140	14		30
Isophorone	76		67		40-140	13		30
Naphthalene	79		70		40-140	12		30
Nitrobenzene	83		73		40-140	13		30
Bis(2-ethylhexyl)phthalate	87		81		40-140	7		30
Butyl benzyl phthalate	80		71		40-140	12		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1669114-2 WG1669114-3								
Di-n-butylphthalate	80		73		40-140	9		30
Di-n-octylphthalate	87		81		40-140	7		30
Diethyl phthalate	80		76		40-140	5		30
Dimethyl phthalate	74		67		40-140	10		30
Benzo(a)anthracene	84		75		40-140	11		30
Benzo(a)pyrene	86		81		40-140	6		30
Benzo(b)fluoranthene	80		76		40-140	5		30
Benzo(k)fluoranthene	91		81		40-140	12		30
Chrysene	87		79		40-140	10		30
Acenaphthylene	75		67		40-140	11		30
Anthracene	83		75		40-140	10		30
Benzo(ghi)perylene	81		73		40-140	10		30
Fluorene	84		76		40-140	10		30
Phenanthrene	82		72		40-140	13		30
Dibenzo(a,h)anthracene	81		73		40-140	10		30
Indeno(1,2,3-cd)pyrene	87		79		40-140	10		30
Pyrene	80		70		40-140	13		30
Aniline	64		55		40-140	15		30
4-Chloroaniline	82		69		40-140	17		30
Dibenzofuran	84		76		40-140	10		30
2-Methylnaphthalene	80		72		40-140	11		30
Acetophenone	76		68		40-140	11		30
2,4,6-Trichlorophenol	78		70		30-130	11		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1669114-2 WG1669114-3								
2-Chlorophenol	79		67		30-130	16		30
2,4-Dichlorophenol	78		68		30-130	14		30
2,4-Dimethylphenol	82		71		30-130	14		30
2-Nitrophenol	86		74		30-130	15		30
4-Nitrophenol	89		84		30-130	6		30
2,4-Dinitrophenol	83		66		30-130	23		30
Pentachlorophenol	66		60		30-130	10		30
Phenol	83		73		30-130	13		30
2-Methylphenol	80		72		30-130	11		30
3-Methylphenol/4-Methylphenol	87		75		30-130	15		30
2,4,5-Trichlorophenol	79		70		30-130	12		30
Pyridine	65		55		30-130	17		30
Biphenyl	76		69		40-140	10		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	80		70		30-130
Phenol-d6	85		74		30-130
Nitrobenzene-d5	87		75		30-130
2-Fluorobiphenyl	76		69		30-130
2,4,6-Tribromophenol	79		73		30-130
4-Terphenyl-d14	75		66		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2240165
Report Date: 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/07/22 11:30
Analyst: AL

Extraction Method: EPA 3546
Extraction Date: 08/06/22 15:11

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 02 Batch: WG1672103-1					
TPH (C10-C36)	ND		ug/kg	32000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	63		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 02 Batch: WG1672103-2								
TPH (C10-C36)	72		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	59				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2240165
Report Date: 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 07/29/22 14:20
Analyst: ER

Extraction Method: EPA 3540C
Extraction Date: 07/27/22 22:55
Cleanup Method: EPA 3665A
Cleanup Date: 07/28/22
Cleanup Method: EPA 3660B
Cleanup Date: 07/29/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 02 Batch: WG1668267-1						
Aroclor 1016	ND		ug/kg	33.3	--	A
Aroclor 1221	ND		ug/kg	33.3	--	A
Aroclor 1232	ND		ug/kg	33.3	--	A
Aroclor 1242	ND		ug/kg	33.3	--	A
Aroclor 1248	ND		ug/kg	33.3	--	A
Aroclor 1254	ND		ug/kg	33.3	--	A
Aroclor 1260	ND		ug/kg	33.3	--	A
Aroclor 1262	ND		ug/kg	33.3	--	A
Aroclor 1268	ND		ug/kg	33.3	--	A
PCBs, Total	ND		ug/kg	33.3	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	59		30-150	B
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	53		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 02 Batch: WG1668267-2 WG1668267-3									
Aroclor 1016	53		80		40-140	**41**	Q	30	A
Aroclor 1260	44		70		40-140	**46**	Q	30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	50		82		30-150	B
Decachlorobiphenyl	43		73		30-150	B
2,4,5,6-Tetrachloro-m-xylene	52		84		30-150	A
Decachlorobiphenyl	44		74		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2240165
Report Date: 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 08/02/22 15:06
Analyst: AKM

Extraction Method: EPA 3546
Extraction Date: 07/31/22 10:21
Cleanup Method: EPA 3620B
Cleanup Date: 08/02/22
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 02 Batch: WG1669443-1						
Delta-BHC	ND		ug/kg	1.54	--	A
Lindane	ND		ug/kg	0.514	--	A
Alpha-BHC	ND		ug/kg	0.643	--	A
Beta-BHC	ND		ug/kg	1.54	--	A
Heptachlor	ND		ug/kg	0.771	--	A
Aldrin	ND		ug/kg	1.54	--	A
Heptachlor epoxide	ND		ug/kg	2.89	--	A
Endrin	ND		ug/kg	0.643	--	A
Endrin ketone	ND		ug/kg	1.54	--	A
Dieldrin	ND		ug/kg	0.964	--	A
4,4'-DDE	ND		ug/kg	1.54	--	A
4,4'-DDD	ND		ug/kg	1.54	--	A
4,4'-DDT	ND		ug/kg	2.89	--	A
Endosulfan I	ND		ug/kg	1.54	--	A
Endosulfan II	ND		ug/kg	1.54	--	A
Endosulfan sulfate	ND		ug/kg	0.643	--	A
Methoxychlor	ND		ug/kg	2.89	--	A
Chlordane	ND		ug/kg	12.8	--	A
Hexachlorobenzene	ND		ug/kg	1.54	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	96		30-150	A
2,4,5,6-Tetrachloro-m-xylene	90		30-150	B
Decachlorobiphenyl	95		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2240165
Report Date: 08/11/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 08/10/22 09:35
Analyst: AKM

Extraction Method: EPA 8151A
Extraction Date: 08/08/22 17:59

Methylation Date: 08/10/22 06:01

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 02 Batch: WG1672678-1						
MCPP	ND		ug/kg	3300	--	A
MCPA	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
Dichloroprop	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	90		30-150	A
DCAA	82		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 02 Batch: WG1669443-2 WG1669443-3									
Delta-BHC	95		104		40-140	9		30	A
Lindane	79		88		40-140	11		30	A
Alpha-BHC	83		93		40-140	11		30	A
Beta-BHC	76		77		40-140	1		30	A
Heptachlor	84		94		40-140	11		30	A
Aldrin	81		91		40-140	12		30	A
Heptachlor epoxide	74		82		40-140	10		30	A
Endrin	82		94		40-140	14		30	A
Endrin ketone	81		90		40-140	11		30	A
Dieldrin	87		98		40-140	12		30	A
4,4'-DDE	82		94		40-140	14		30	A
4,4'-DDD	92		105		40-140	13		30	A
4,4'-DDT	89		99		40-140	11		30	A
Endosulfan I	77		87		40-140	12		30	A
Endosulfan II	83		88		40-140	6		30	A
Endosulfan sulfate	69		73		40-140	6		30	A
Methoxychlor	83		90		40-140	8		30	A
Hexachlorobenzene	75		85		40-140	13		30	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 02 Batch: WG1669443-2 WG1669443-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		88		30-150	A
Decachlorobiphenyl	85		99		30-150	A
2,4,5,6-Tetrachloro-m-xylene	81		92		30-150	B
Decachlorobiphenyl	85		98		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165

Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 02 Batch: WG1672678-2 WG1672678-3									
MCPP	**274**	Q	**295**	Q	40-140	7		30	A
MCPA	**171**	Q	**158**	Q	40-140	8		30	A
Dalapon	81		88		40-140	8		30	A
Dicamba	96		95		40-140	1		30	A
Dichloroprop	**156**	Q	**144**	Q	40-140	8		30	A
2,4-D	112		109		40-140	3		30	A
2,4-DB	101		100		40-140	1		30	A
2,4,5-T	106		103		40-140	3		30	A
2,4,5-TP (Silvex)	97		97		40-140	0		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	103		101		30-150	A
DCAA	102		99		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2240165

Project Number: 310142.0032 PH3 TK4 **Report Date:** 08/11/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 02 Batch: WG1669853-1										
Antimony, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Arsenic, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Barium, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Beryllium, Total	ND		mg/kg	0.200	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Cadmium, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Chromium, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Lead, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Nickel, Total	ND		mg/kg	1.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Selenium, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Silver, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Thallium, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Vanadium, Total	ND		mg/kg	0.400	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK
Zinc, Total	ND		mg/kg	2.00	--	1	08/01/22 21:29	08/04/22 18:20	97,6010D	ZK

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 02 Batch: WG1669856-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/01/22 22:18	08/02/22 07:53	97,7471B	DMB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165

Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1669853-2 WG1669853-3 SRM Lot Number: D113-540								
Antimony, Total	130		124		20-250	5		30
Arsenic, Total	100		96		70-130	4		30
Barium, Total	91		87		75-125	4		30
Beryllium, Total	101		86		75-125	16		30
Cadmium, Total	95		87		75-125	9		30
Chromium, Total	97		90		70-130	7		30
Lead, Total	92		89		72-128	3		30
Nickel, Total	94		89		70-130	5		30
Selenium, Total	99		95		66-134	4		30
Silver, Total	98		94		70-131	4		30
Thallium, Total	92		88		70-130	4		30
Vanadium, Total	94		90		74-126	4		30
Zinc, Total	93		90		70-130	3		30
MCP Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1669856-2 WG1669856-3 SRM Lot Number: D113-540								
Mercury, Total	97		97		60-140	0		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

SAMPLE RESULTS

Lab ID: L2240165-01
Client ID: GLC-WASHPUMPGRADING-062322-DC-VOC(7)
Sample Location: SOMERVILLE, MA

Date Collected: 07/27/22 11:30
Date Received: 07/27/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.1		%	0.100	NA	1	-	07/28/22 09:50	121,2540G	RI

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2240165

Project Number: 310142.0032 PH3 TK4 **Report Date:** 08/11/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG1669073-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/03/22 12:00	08/03/22 13:44	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG1670551-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/03/22 12:00	08/03/22 14:14	125,7.3	MJ

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1668921-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1668932-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1669073-2								
Sulfide, Reactive	117		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1670551-2								
Cyanide, Reactive	103		-		30-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165

Report Date: 08/11/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1668932-2 QC Sample: L2240165-02 Client ID: GLC-WASHPUMPGRADING-062322-DC-COMP						
Specific Conductance @ 25 C	200	200	umhos/cm	0		20

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2240165
Report Date: 08/11/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240165-01A	Vial MeOH preserved	A	NA		2.1	Y	Absent		MCP-8260HLW-21(14)
L2240165-01B	Vial NaHSO4 preserved	A	NA		2.1	Y	Absent		MCP-8260HLW-21(14)
L2240165-01C	Vial NaHSO4 preserved	A	NA		2.1	Y	Absent		MCP-8260HLW-21(14)
L2240165-01D	Plastic 2oz unpreserved for TS	A	NA		2.1	Y	Absent		TS(7)
L2240165-02A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2240165-02B	Glass 250ml/8oz unpreserved	A	NA		2.1	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2240165-02C	Glass 500ml/16oz unpreserved	A	NA		2.1	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2240165
Project Number:	310142.0032 PH3 TK4	**Report Date:**	08/11/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2240165
Project Number:	310142.0032 PH3 TK4	**Report Date:**	08/11/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2240165
Project Number:	310142.0032 PH3 TK4	**Report Date:**	08/11/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2240165
Project Number:	310142.0032 PH3 TK4	**Report Date:**	08/11/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L2240165

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 07/27/22

ALPHA Job #: 2240165 (MTBE)

Client Information

Client: TRC Environmental Corp

Address: 2 Liberty Square

Boston, MA 02109

Phone: 617-476-1303

Fax: LAndersen@trccompanies.com

Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: MBTA GLX Disposal Sampling

Project Location: Somerville, MA

Project #: 310142.0032.0000 Phase 3 Task4

Project Manager: ~~Ryan Niles~~ Lars Andersen

ALPHA Quote #: 7623R1

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 165723

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1: <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, lvolk@trccompanies.com, lnakolan@trccompanies.com, bayres@trccompanies.com
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first.

Sub lab must provide MCP forms/ narrative as well as TRC's EQUIS EDD format for the metals data

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides		TOTAL # BOTTLES
40165-01	GLC-WashRumpGrading-062322-DC-VOC(+)	07/27	11:30	Soil	GY	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-02	GLC-WashRumpGrading-062322-PC-COMP	07/27	11:40	Soil	GY	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑ GY	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Container Type	V	V	A	A	A	A	A	A	A	A	A	A	
Preservative	F	G	A	A	A	A	A	A	A	A	A	A	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By	Date/Time	Received By	Date/Time
Emily Tapio	7/27/22 2:41	Flow MAL	7/27/22 1441
	7/27/22 1800		7/27/22 1830

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2240165
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4
Lab Sample ID	: WG1670225-5	**Lab File ID**	: V27220729B04
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 07/29/22 10:15

Client Sample No.	Lab Sample ID	Analysis Date
WG1670225-3LCS	WG1670225-3	07/29/22 09:35
WG1670225-4LCSD	WG1670225-4	07/29/22 09:55
GLC-WASHPUMPGRADING-062322-DC-VOC(7)	L2240165-01	07/29/22 16:55

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2240165		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4		
Instrument ID	: VOA127	**Calibration Date**	: 07/29/22 09:15		
Lab File ID	: V27220729B01	**Init. Calib. Date(s)**	: 07/06/22	07/06/22	
Sample No	: WG1670225-2	**Init. Calib. Times**	: 14:11	16:50	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	69	0
Dichlorodifluoromethane	0.149	0.222	-	-49*	20	99	0
Chloromethane	0.16	0.209	-	-30.6*	20	89	0
Vinyl chloride	0.185	0.226	-	-22.2*	20	80	0
Bromomethane	40	50.628	-	-26.6*	20	85	0
Chloroethane	0.122	0.15	-	-23*	20	85	0
Trichlorofluoromethane	0.316	0.349	-	-10.4	20	70	0
Ethyl ether	0.116	0.12	-	-3.4	20	75	0
1,1-Dichloroethene	0.198	0.211	-	-6.6	20	69	0
Carbon disulfide	0.553	0.619	-	-11.9	20	76	0
Freon-113	0.209	0.22	-	-5.3	20	69	0
Acrolein	0.023	0.026	-	-13	20	78	0
Methylene chloride	40	42.072	-	-5.2	20	72	0
Acetone	40	48.961	-	-22.4*	20	78	0
trans-1,2-Dichloroethene	0.249	0.242	-	2.8	20	67	0
Methyl acetate	0.117	0.118	-	-0.9	20	71	-.01
Methyl tert-butyl ether	0.608	0.568	-	6.6	20	64	0
tert-Butyl alcohol	0.031	0.023	-	25.8*	20	57	-.01
Diisopropyl ether	0.613	0.597	-	2.6	20	67	0
1,1-Dichloroethane	0.378	0.392	-	-3.7	20	71	0
Halothane	0.198	0.184	-	7.1	20	64	-.02
Acrylonitrile	40	40.738	-	-1.8	20	69	0
Ethyl tert-butyl ether	0.67	0.639	-	4.6	20	64	-.01
Vinyl acetate	0.465	0.43	-	7.5	20	62	-.01
cis-1,2-Dichloroethene	0.289	0.278	-	3.8	20	68	0
2,2-Dichloropropane	0.369	0.374	-	-1.4	20	68	-.01
Bromochloromethane	0.143	0.137	-	4.2	20	65	-.01
Cyclohexane	0.325	0.326	-	-0.3	20	66	0
Chloroform	0.454	0.435	-	4.2	20	67	0
Ethyl acetate	0.183	0.17	-	7.1	20	63	0
Carbon tetrachloride	0.337	0.317	-	5.9	20	63	0
Tetrahydrofuran	40	39.575	-	1.1	20	67	0
Dibromofluoromethane	0.253	0.252	-	0.4	20	69	0
1,1,1-Trichloroethane	0.362	0.359	-	0.8	20	65	0
2-Butanone	0.084	0.081	-	3.6	20	68	-.01
1,1-Dichloropropene	0.293	0.301	-	-2.7	20	65	0
Benzene	0.968	0.971	-	-0.3	20	69	-.01
tert-Amyl methyl ether	0.7	0.623	-	11	20	61	0
1,2-Dichloroethane-d4	0.246	0.255	-	-3.7	20	72	-.01
1,2-Dichloroethane	0.299	0.298	-	0.3	20	68	0
Methyl cyclohexane	0.415	0.402	-	3.1	20	63	0
Trichloroethene	0.273	0.266	-	2.6	20	67	0
Dibromomethane	0.157	0.149	-	5.1	20	65	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2240165		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4		
Instrument ID	: VOA127	**Calibration Date**	: 07/29/22 09:15		
Lab File ID	: V27220729B01	**Init. Calib. Date(s)**	: 07/06/22	07/06/22	
Sample No	: WG1670225-2	**Init. Calib. Times**	: 14:11	16:50	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.232	0.232	-	0	20	68	-.01
2-Chloroethyl vinyl ether	0.149	0.128	-	14.1	20	59	0
Bromodichloromethane	0.361	0.333	-	7.8	20	65	0
1,4-Dioxane	0.00271	0.00222*	-	18.1	20	55	0
cis-1,3-Dichloropropene	0.405	0.398	-	1.7	20	65	0
Chlorobenzene-d5	1	1	-	0	20	70	0
Toluene-d8	1.259	1.249	-	0.8	20	70	0
Toluene	0.871	0.789	-	9.4	20	68	0
4-Methyl-2-pentanone	0.106	0.091	-	14.2	20	60	0
Tetrachloroethene	0.405	0.389	-	4	20	63	0
trans-1,3-Dichloropropene	0.468	0.438	-	6.4	20	64	0
Ethyl methacrylate	0.393	0.346	-	12	20	61	0
1,1,2-Trichloroethane	0.23	0.22	-	4.3	20	68	0
Chlorodibromomethane	0.359	0.318	-	11.4	20	61	0
1,3-Dichloropropane	0.456	0.446	-	2.2	20	67	0
1,2-Dibromoethane	0.293	0.269	-	8.2	20	63	0
2-Hexanone	0.181	0.146	-	19.3	20	59	0
Chlorobenzene	0.929	0.907	-	2.4	20	66	0
Ethylbenzene	1.506	1.442	-	4.2	20	66	0
1,1,1,2-Tetrachloroethane	0.359	0.334	-	7	20	64	0
p/m Xylene	0.604	0.58	-	4	20	66	0
o Xylene	0.579	0.565	-	2.4	20	66	0
Styrene	0.956	0.931	-	2.6	20	66	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	72	0
Bromoform	0.483	0.396	-	18	20	57	0
Isopropylbenzene	2.743	2.551	-	7	20	64	0
4-Bromofluorobenzene	0.828	0.783	-	5.4	20	69	0
Bromobenzene	0.809	0.726	-	10.3	20	64	0
n-Propylbenzene	3.053	3.01	-	1.4	20	68	0
1,4-Dichlorobutane	0.712	0.714	-	-0.3	20	73	0
1,1,2,2-Tetrachloroethane	0.632	0.594	-	6	20	69	0
4-Ethyltoluene	2.66	2.553	-	4	20	67	0
2-Chlorotoluene	1.914	1.781	-	6.9	20	67	0
1,3,5-Trimethylbenzene	2.301	2.198	-	4.5	20	66	0
1,2,3-Trichloropropane	0.519	0.481	-	7.3	20	66	0
trans-1,4-Dichloro-2-buten	0.178	0.161	-	9.6	20	69	0
4-Chlorotoluene	1.947	1.881	-	3.4	20	68	0
tert-Butylbenzene	2.057	1.896	-	7.8	20	64	0
1,2,4-Trimethylbenzene	2.305	2.164	-	6.1	20	66	0
sec-Butylbenzene	2.908	2.839	-	2.4	20	66	0
p-Isopropyltoluene	2.585	2.471	-	4.4	20	65	0
1,3-Dichlorobenzene	1.487	1.419	-	4.6	20	68	0
1,4-Dichlorobenzene	1.609	1.413	-	12.2	20	67	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2240165		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4		
Instrument ID	: VOA127	**Calibration Date**	: 07/29/22 09:15		
Lab File ID	: V27220729B01	**Init. Calib. Date(s)**	: 07/06/22	07/06/22	
Sample No	: WG1670225-2	**Init. Calib. Times**	: 14:11	16:50	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.572	1.48	-	5.9	20	66	0
n-Butylbenzene	2.13	2.193	-	-3	20	70	0
1,2-Dichlorobenzene	1.406	1.328	-	5.5	20	67	0
1,2,4,5-Tetramethylbenzene	2.498	2.224	-	11	20	62	0
1,2-Dibromo-3-chloropropan	0.135	0.108	-	20	20	57	0
1,3,5-Trichlorobenzene	1.218	1.161	-	4.7	20	68	0
Hexachlorobutadiene	0.675	0.624	-	7.6	20	64	0
1,2,4-Trichlorobenzene	1.111	1.016	-	8.6	20	66	0
Naphthalene	2.306	1.923	-	16.6	20	61	0
1,2,3-Trichlorobenzene	1.033	0.942	-	8.8	20	65	0

*** Value outside of QC limits.**

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2240165
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4
Instrument ID	: PEST10	**Analysis Date**	: 08/02/22 07:46
PEM Standard	: R1593567-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	291995.17549	645057.62502
Endrin	152513172.72041	126876473.50319
4,4'-DDD	401670.14558	559100.84995
4,4'-DDT	276879308.80002	228552136.30663
Endrin Aldehyde	0	139680.44997
Endrin Ketone	790852.06187	683994.37978

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.516	0.645
DDT	0.250	0.524

APPENDIX B

APRIL 2022

CONTAINED-IN DETERMINATION

(Transaction #1359845)

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

April 25, 2022

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Soil containing hazardous wastes from RTN 3-34742 were generated to facilitate construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station. RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The soil contained the listed hazardous waste(s) with waste code: U210, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results mg/kg	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
WashPumpGas030222	GLC-WASHPUMPGAS030222-DC-VOC (1)	3/11/2022	Tetrachloroethene (127-18-4)	0.0085	1 mg/kg	10 mg/kg	30 mg/kg

Tetrachloroethene (PCE) – Analytical results equal 0.0085 mg/kg (below S-1 standards).

The sample included in **Table 1-1** is included in this proposed contained-in determination.

Sample GLC-WASHPUMPGAS030222-DC-VOC (1) was collected from a soil stockpile generated during gas line installation at the Washington Street Pump Station. A field geologist screened the soil from eight discreet locations with a photoionization detector (PID) during sampling for the presence of total volatile organic compounds (TVOCs). The corresponding volatile organic compound (VOC) sample was collected from the discrete location exhibiting the highest TVOC reading. The sampled stockpile is covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for the stockpile is also tracked using a geographic information system (GIS) application created for the project. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil.

The sample included in this contained-in determination represents a volume of up to 60 cubic yards. Analytical data for the eligible sample is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The stockpile generation location is shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpile's staging location on site at the time of sampling is shown in **Figure 2**.

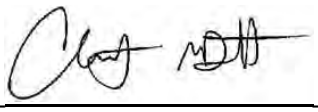
Soils from the Washington Street Pump Station have been included in several contained-in determinations submitted to MassDEP. In-situ samples were included in a contained-in determination that was submitted to MassDEP in December 2014 due to detectable PCE and TCE below Massachusetts Contingency Plan (MCP) S-1 standards; however, to meet current performance standards and to be consistent with on-going project soil management practices, additional contained-in determinations were prepared with updated characterization data to facilitate the disposal of soil. Soil generated from the Washington Street Pump Station were included in contained-in determinations that were submitted to MassDEP in September 2020, June 2021 (revised and resubmitted in July 2021), July 2021, November 2021, January 2022, and March 2022 due to PCE and select TCE and 1,1,1-Trichloroethane (1,1,1-TCA) detections below MCP S-1 standards. The most recent Contained-In Determination is attached as **Appendix B**, which includes the other aforementioned Contained-In Determinations as attachments. The December 2014, September 2020, revised June

2021, July 2021, two November 2021, two January 2022, and March 2022 contained-in determinations are also available on MassDEP's online database under transaction IDs 706656, 1221372, 1297119, 1297120, 1318479, 1320846, 1326493, 1336446, and 1344804, respectively.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

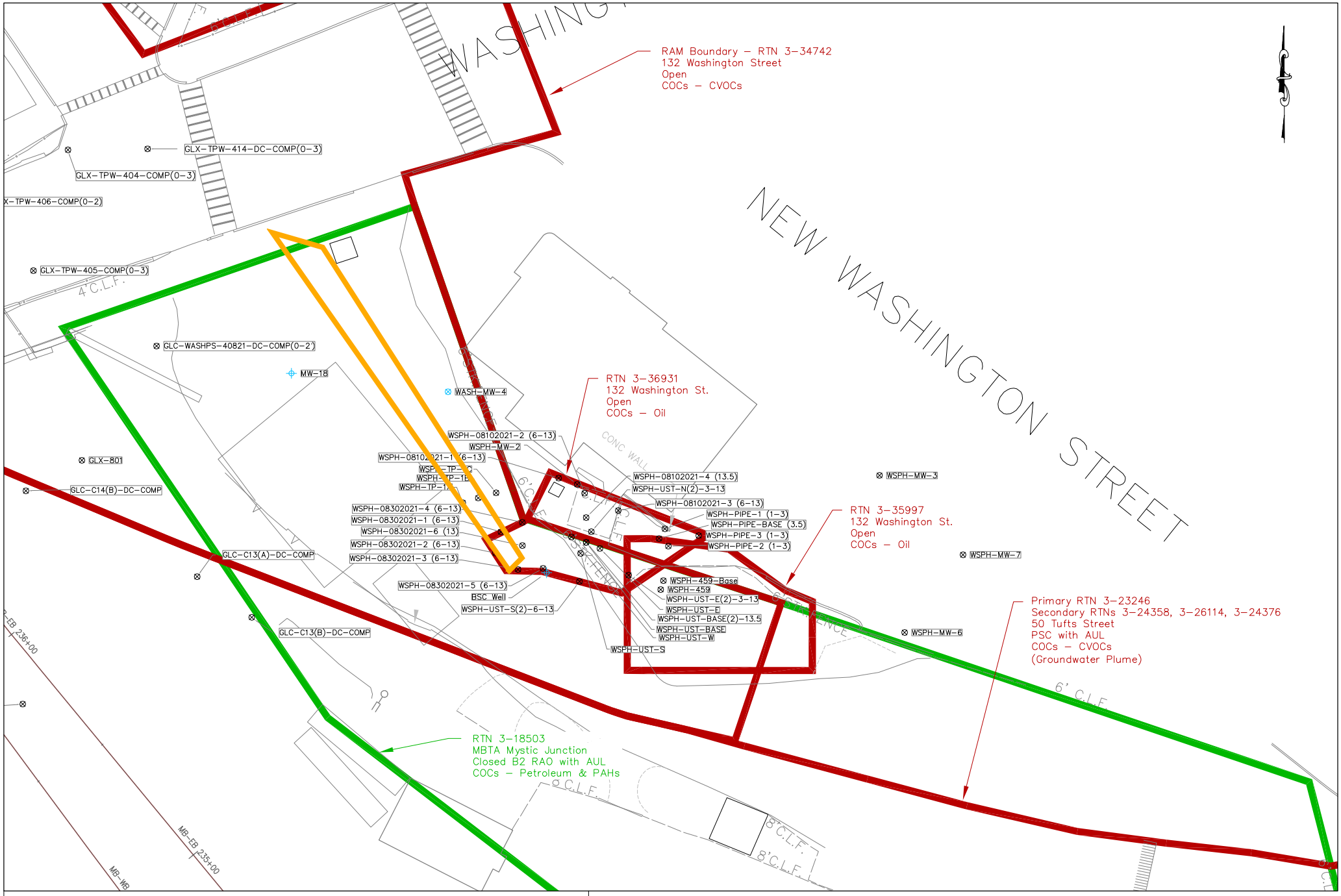
I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By:  4/25/2022
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Figure 1 – Stockpile Generation Location
Figure 2 – Stockpile Staging Location
Table 1 – Summary of Soil Sample Analytical Results
Appendix A – Laboratory Report
Appendix B – March 2022 Contained-In

FIGURES

Figure 1 - Generation Location



GLXC MASTER CAD FILE – ALL
BORINGS/MONITORING WELLS 02/01/2022

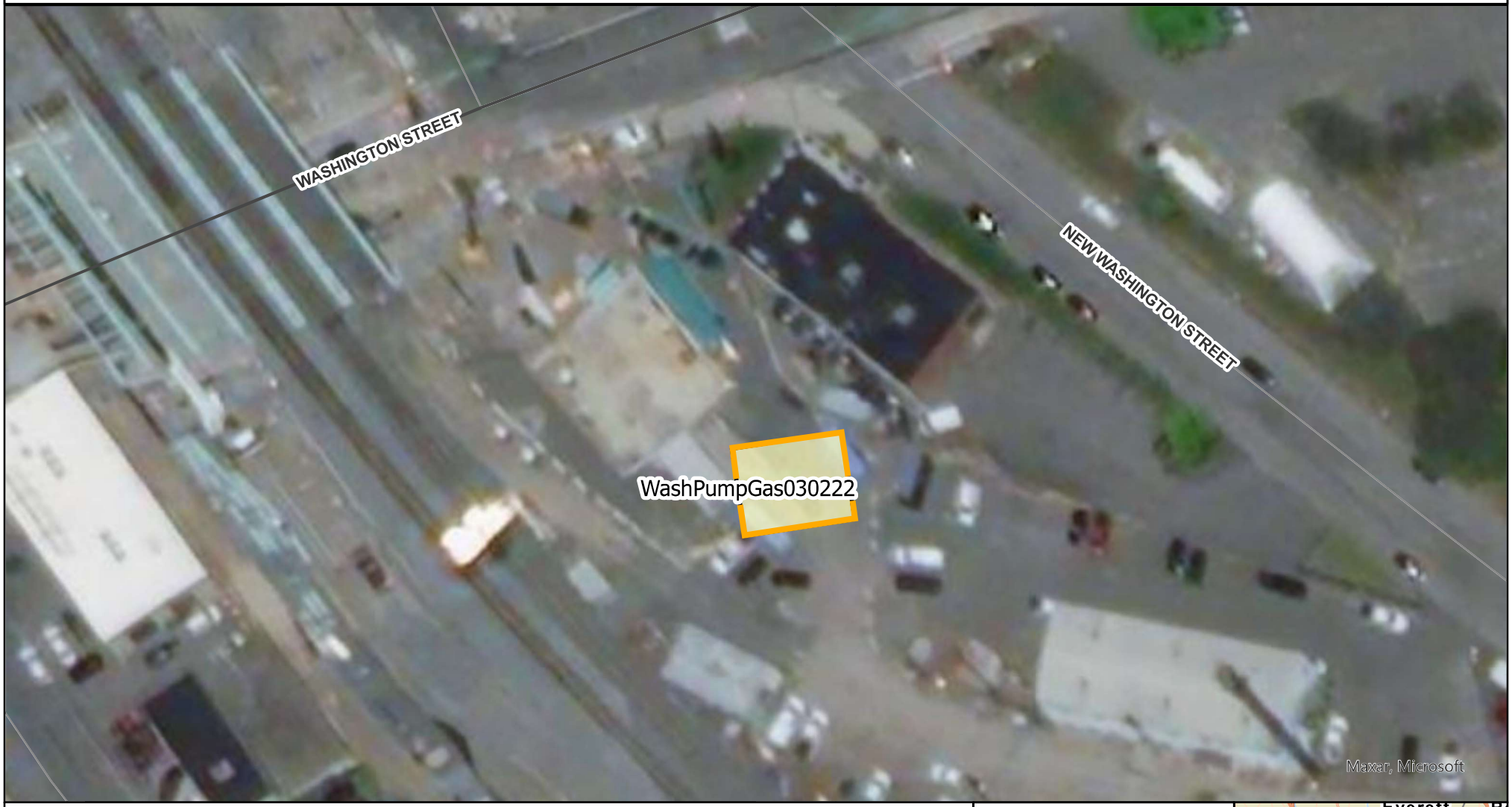
0 10 20 Feet

LEGEND

- BORING
- WELL
- RTN Closed with AUL
- RTN Closed
- RTN Open

Stockpile Generation Area

Figure 2: Stockpile Location



Legend

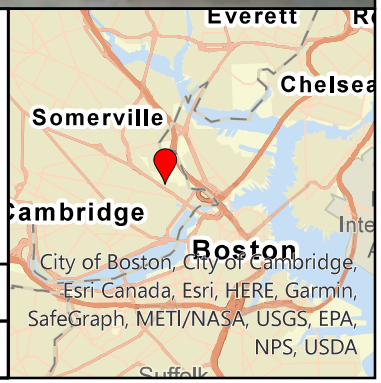
Stockpile relevant to Contained-In Determination

N

0 20 40 Feet

1 inch = 58 ft

DRAWN BY: JLD	CHECKED BY: LV
DATE: 03/28/22	



TABLES

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
March 11, 2022

						LOCATION	GLC-WASHPUMPGAS030222-DC-VOC(1)	
						SAMPLING DATE	3/11/2022	
						LAB SAMPLE ID	22C1091-02	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Acetone	67-64-1	6	50	400	mg/kg	0.074	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.00074	U
	Benzene	71-43-2	2	40	40	mg/kg	0.0015	U
	Bromobenzene	108-86-1				mg/kg	0.0015	U
	Bromochloromethane	74-97-5				mg/kg	0.0015	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.0015	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0015	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0074	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.029	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.00074	U
	Carbon disulfide	75-15-0				mg/kg	0.0074	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0015	U
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.0015	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00074	U
	Chloroethane	75-00-3				mg/kg	0.015	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0029	U
	Chloromethane	74-87-3				mg/kg	0.0074	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0015	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0015	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0015	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00074	U
	Dibromomethane	74-95-3				mg/kg	0.0015	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0015	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0015	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0015	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.015	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0015	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0015	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0029	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0015	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0015	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0015	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.00074	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0015	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.0015	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00074	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00074	U
	Diethyl ether	60-29-7				mg/kg	0.015	U
	Diisopropyl Ether	108-20-3				mg/kg	0.00074	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.074	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0015	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0015	U
	2-Hexanone	591-78-6				mg/kg	0.015	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0029	U
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.015	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.015	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0029	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	Styrene	100-42-5	3	4	70	mg/kg	0.0015	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.0015	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00074	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0085	
	Tetrahydrofuran	109-99-9				mg/kg	0.0074	U
	Toluene	108-88-3	30	500	500	mg/kg	0.0015	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0015	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0015	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.0015	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0015	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0015	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0074	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0015	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.0074	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0029	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0015	U
	Total VOCs					mg/kg	0.0085	

Gray shading indicates nondetect detection limit is above one or more of the listed criteria, except for MA Background Level Natural soil.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A

LABBREPORTS

TS

GLX CONSTRUCTORS

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 30, 2022

Ryan Niles
TRC Environmental Corporation - Boston
2 Liberty Square, 6th Floor
Boston, MA 02109

Project Location: Somerville, MA
Client Job Number:
Project Number: 310142.0032 P3 T4
Laboratory Work Order Number: 22C1091

Enclosed are results of analyses for samples as received by the laboratory on March 16, 2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew J Beaupre
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

TRC Environmental Corporation - Boston
2 Liberty Square, 6th Floor
Boston, MA 02109
ATTN: Ryan Niles

REPORT DATE: 3/30/2022

PURCHASE ORDER NUMBER: 169853

PROJECT NUMBER: 310142.0032 P3 T4

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 22C1091

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Somerville, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
~~GLC-WASHPUMPGAS030222-DC-COMP~~	~~22C1091-01~~	~~Soil~~		~~SM 2540G~~ ~~SM21-23 2510B Modified~~ ~~SW-846 1030~~ ~~SW-846 6010D~~ ~~SW-846 7471B~~ ~~SW-846 8015C~~ ~~SW-846 8081B~~ ~~SW-846 8082A~~ ~~SW-846 8151A~~ ~~SW-846 8270E~~ ~~SW-846 9014~~ ~~SW-846 9030A~~ ~~SW-846 9045C~~	
GLC-WASHPUMPGAS030222-DC-VOC(1)	22C1091-02	Soil		SM 2540G SW-846 8260D	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

-02: No sample jar was received for percent solids. Per client, report % solids from -01. Also, the COC requests SVOC's by 8270 on sample -02. SVOC's by 8270 are to be analyzed on -01.

Per the client, The VOC sample -02, was frozen at 11-MAR-22 21:27 until shipment 16-MAR-22 07:58.

For method 8151 samples were derivatized on 03/21/22

For method 8151 samples analysis bracketed by LCS to monitor esterification. All recoveries in the bracketing LCS met method criteria.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

SW-846 8081B

Qualifications:

DL-03

Elevated reporting limit due to matrix interference.

Analyte & Samples(s) Qualified:

22C1091-01[GLC-WASHPUMPGAS030222-DC-COMP]

SW-846 8082A

Qualifications:

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

22C1091-01[GLC-WASHPUMPGAS030222-DC-COMP]

SW-846 8151A

Qualifications:

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

22C1091-01[GLC-WASHPUMPGAS030222-DC-COMP]

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

2,4-DB
22C1091-01[GLC-WASHPUMPGAS030222-DC-COMP]

2,4-DB [2C]
22C1091-01[GLC-WASHPUMPGAS030222-DC-COMP]

SW-846 8260D

Qualifications:

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

2-Butanone (MEK)
22C1091-02[GLC-WASHPUMPGAS030222-DC-VOC(1)], B303426-BLK1, B303426-BS1, B303426-BSD1

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

Methylene Chloride
22C1091-02[GLC-WASHPUMPGAS030222-DC-VOC(1)], B303426-BLK1, B303426-BS1, B303426-BSD1, S069288-CCV1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
S069288-CCV1

Tetrahydrofuran
S069288-CCV1

SW-846 8270E

Qualifications:

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 22C1091

Date Received: 3/16/2022

Field Sample #: GLC-WASHPUMPGAS030222-DC-VOC(1 | Sampled: 3/11/2022 10:43

Sample ID: 22C1091-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Bromoform	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Bromomethane	ND	0.0074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
2-Butanone (MEK)	ND	0.029	mg/Kg dry	1	R-05	SW-846 8260D	3/17/22	3/17/22 8:39	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Carbon Disulfide	ND	0.0074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Chlorodibromomethane	ND	0.00074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Chloroethane	ND	0.015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Chloroform	ND	0.0029	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Chloromethane	ND	0.0074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,2-Dibromoethane (EDB)	ND	0.00074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,1-Dichloroethylene	ND	0.0029	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,3-Dichloropropane	ND	0.00074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
cis-1,3-Dichloropropene	ND	0.00074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
trans-1,3-Dichloropropene	ND	0.00074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Diethyl Ether	ND	0.015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Diisopropyl Ether (DIPE)	ND	0.00074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,4-Dioxane	ND	0.074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF

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Project Location: Somerville, MA | Sample Description: | Work Order: 22C1091

Date Received: 3/16/2022

Field Sample #: GLC-WASHPUMPGAS030222-DC-VOC(1 | Sampled: 3/11/2022 10:43

Sample ID: 22C1091-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0029	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Methylene Chloride	ND	0.015	mg/Kg dry	1	V-05	SW-846 8260D	3/17/22	3/17/22 8:39	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Naphthalene	ND	0.0029	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,1,2,2-Tetrachloroethane	ND	0.00074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Tetrachloroethylene	0.0085	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Tetrahydrofuran	ND	0.0074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,2,3-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,2,4-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
Vinyl Chloride	ND	0.0074	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
m+p Xylene	ND	0.0029	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260D	3/17/22	3/17/22 8:39	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
1,2-Dichloroethane-d4	110	70-130		3/17/22	8:39
Toluene-d8	96.6	70-130		3/17/22	8:39
4-Bromofluorobenzene	103	70-130		3/17/22	8:39

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Project Location: Somerville, MA | Sample Description: | Work Order: 22C1091

Date Received: 3/16/2022

Field Sample #: GLC-WASHPUMPGAS030222-DC-VOC(1 | Sampled: 3/11/2022 10:43

Sample ID: 22C1091-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.0		% Wt	1		SM 2540G	3/18/22	3/21/22 12:03	KC

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Sample Extraction Data

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303591	03/18/22
22C1091-02 [GLC-WASHPUMPGAS030222-DC-VOC(1)]	B303591	03/18/22

SM21-23 2510B Modified

Lab Number [Field ID]	Batch	Initial [g]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303605	1.00	03/19/22

SW-846 1030

Lab Number [Field ID]	Batch	Initial [g]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303493	50.0	03/17/22

Prep Method: SW-846 3050B **Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303440	1.52	50.0	03/17/22

Prep Method: SW-846 7470A/7471A **Analytical Method: SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B304059	0.609	50.0	03/24/22

Prep Method: SW-846 3546 **Analytical Method: SW-846 8015C**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303449	30.0	1.00	03/17/22

Prep Method: SW-846 3546 **Analytical Method: SW-846 8081B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303383	10.0	10.0	03/16/22

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303434	10.0	10.0	03/17/22

Prep Method: SW-846 8151 **Analytical Method: SW-846 8151A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303758	20.0	5.00	03/22/22

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Sample Extraction Data

Prep Method: SW-846 5035 **Analytical Method: SW-846 8260D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-02 [GLC-WASHPUMPGAS030222-DC-VOC(1)]	B303426	7.82	10.0	03/17/22

Prep Method: SW-846 3546 **Analytical Method: SW-846 8270E**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303934	30.0	1.00	03/23/22

Prep Method: SW-846 7.3 **Analytical Method: SW-846 9014**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303559	25.8	250	03/18/22

Prep Method: SW-846 7.3 **Analytical Method: SW-846 9030A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303558	25.8	250	03/18/22

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
22C1091-01 [GLC-WASHPUMPGAS030222-DC-COMP]	B303500	20.0	03/17/22

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303426 - SW-846 5035										
Blank (B303426-BLK1)				Prepared & Analyzed: 03/17/22						
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							R-05
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.010	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.020	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.020	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.020	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.020	mg/Kg wet							V-05
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B303426 - SW-846 5035											
Blank (B303426-BLK1)				Prepared & Analyzed: 03/17/22							
n-Propylbenzene	ND	0.0020	mg/Kg wet								
Styrene	ND	0.0020	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet								
Tetrachloroethylene	ND	0.0020	mg/Kg wet								
Tetrahydrofuran	ND	0.010	mg/Kg wet								
Toluene	ND	0.0020	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet								
Trichloroethylene	ND	0.0020	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet								
Vinyl Chloride	ND	0.010	mg/Kg wet								
m+p Xylene	ND	0.0040	mg/Kg wet								
o-Xylene	ND	0.0020	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0529*		mg/Kg wet	0.0500		106	70-130				
Surrogate: Toluene-d8	*0.0479*		mg/Kg wet	0.0500		95.9	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0493*		mg/Kg wet	0.0500		98.6	70-130				
LCS (B303426-BS1)				Prepared & Analyzed: 03/17/22							
Acetone	0.141	0.10	mg/Kg wet	0.200		70.5	40-160				†
tert-Amyl Methyl Ether (TAME)	0.0185	0.0010	mg/Kg wet	0.0200		92.6	70-130				
Benzene	0.0157	0.0020	mg/Kg wet	0.0200		78.7	70-130				
Bromobenzene	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130				
Bromochloromethane	0.0196	0.0020	mg/Kg wet	0.0200		98.1	70-130				
Bromodichloromethane	0.0191	0.0020	mg/Kg wet	0.0200		95.3	70-130				
Bromoform	0.0251	0.0020	mg/Kg wet	0.0200		126	70-130				
Bromomethane	0.0204	0.010	mg/Kg wet	0.0200		102	40-160				†
2-Butanone (MEK)	0.146	0.040	mg/Kg wet	0.200		72.8	40-160			R-05	†
n-Butylbenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.3	70-130				
sec-Butylbenzene	0.0176	0.0020	mg/Kg wet	0.0200		87.8	70-130				
tert-Butylbenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0171	0.0010	mg/Kg wet	0.0200		85.6	70-130				
Carbon Disulfide	0.163	0.010	mg/Kg wet	0.200		81.3	70-130				
Carbon Tetrachloride	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130				
Chlorobenzene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130				
Chlorodibromomethane	0.0205	0.0010	mg/Kg wet	0.0200		103	70-130				
Chloroethane	0.0168	0.020	mg/Kg wet	0.0200		84.0	70-130				
Chloroform	0.0173	0.0040	mg/Kg wet	0.0200		86.4	70-130				
Chloromethane	0.0167	0.010	mg/Kg wet	0.0200		83.6	40-160				†
2-Chlorotoluene	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130				
4-Chlorotoluene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130				
1,2-Dibromoethane (EDB)	0.0203	0.0010	mg/Kg wet	0.0200		102	70-130				
Dibromomethane	0.0196	0.0020	mg/Kg wet	0.0200		98.1	70-130				
1,2-Dichlorobenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
1,3-Dichlorobenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
1,4-Dichlorobenzene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B303426 - SW-846 5035											
LCS (B303426-BS1)				Prepared & Analyzed: 03/17/22							
Dichlorodifluoromethane (Freon 12)	0.0174	0.020	mg/Kg wet	0.0200		86.8	40-160				†
1,1-Dichloroethane	0.0163	0.0020	mg/Kg wet	0.0200		81.4	70-130				
1,2-Dichloroethane	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130				
1,1-Dichloroethylene	0.0150	0.0040	mg/Kg wet	0.0200		75.2	70-130				
cis-1,2-Dichloroethylene	0.0167	0.0020	mg/Kg wet	0.0200		83.6	70-130				
trans-1,2-Dichloroethylene	0.0164	0.0020	mg/Kg wet	0.0200		81.8	70-130				
1,2-Dichloropropane	0.0155	0.0020	mg/Kg wet	0.0200		77.4	70-130				
1,3-Dichloropropane	0.0190	0.0010	mg/Kg wet	0.0200		95.1	70-130				
2,2-Dichloropropane	0.0184	0.0020	mg/Kg wet	0.0200		91.9	70-130				
1,1-Dichloropropene	0.0176	0.0020	mg/Kg wet	0.0200		87.9	70-130				
cis-1,3-Dichloropropene	0.0175	0.0010	mg/Kg wet	0.0200		87.5	70-130				
trans-1,3-Dichloropropene	0.0188	0.0010	mg/Kg wet	0.0200		93.9	70-130				
Diethyl Ether	0.0178	0.020	mg/Kg wet	0.0200		88.9	70-130				
Diisopropyl Ether (DIPE)	0.0150	0.0010	mg/Kg wet	0.0200		75.2	70-130				
1,4-Dioxane	0.226	0.10	mg/Kg wet	0.200		113	40-160				†
Ethylbenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
Hexachlorobutadiene	0.0225	0.0020	mg/Kg wet	0.0200		113	70-130				
2-Hexanone (MBK)	0.155	0.020	mg/Kg wet	0.200		77.5	40-160				†
Isopropylbenzene (Cumene)	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130				
p-Isopropyltoluene (p-Cymene)	0.0197	0.0020	mg/Kg wet	0.0200		98.5	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0194	0.0040	mg/Kg wet	0.0200		97.1	70-130				
Methylene Chloride	0.0146	0.020	mg/Kg wet	0.0200		73.0	70-130			V-05	
4-Methyl-2-pentanone (MIBK)	0.153	0.020	mg/Kg wet	0.200		76.6	40-160				†
Naphthalene	0.0176	0.0040	mg/Kg wet	0.0200		87.8	70-130				
n-Propylbenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
Styrene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
1,1,1,2-Tetrachloroethane	0.0238	0.0020	mg/Kg wet	0.0200		119	70-130				
1,1,2,2-Tetrachloroethane	0.0211	0.0010	mg/Kg wet	0.0200		106	70-130				
Tetrachloroethylene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130				
Tetrahydrofuran	0.0192	0.010	mg/Kg wet	0.0200		95.9	70-130				
Toluene	0.0176	0.0020	mg/Kg wet	0.0200		88.2	70-130				
1,2,3-Trichlorobenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
1,2,4-Trichlorobenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.4	70-130				
1,1,1-Trichloroethane	0.0191	0.0020	mg/Kg wet	0.0200		95.5	70-130				
1,1,2-Trichloroethane	0.0169	0.0020	mg/Kg wet	0.0200		84.7	70-130				
Trichloroethylene	0.0179	0.0020	mg/Kg wet	0.0200		89.3	70-130				
Trichlorofluoromethane (Freon 11)	0.0167	0.010	mg/Kg wet	0.0200		83.4	70-130				
1,2,3-Trichloropropane	0.0260	0.0020	mg/Kg wet	0.0200		130	70-130				
1,2,4-Trimethylbenzene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
1,3,5-Trimethylbenzene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130				
Vinyl Chloride	0.0167	0.010	mg/Kg wet	0.0200		83.4	70-130				
m+p Xylene	0.0406	0.0040	mg/Kg wet	0.0400		102	70-130				
o-Xylene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0503*		mg/Kg wet	0.0500		101	70-130				
Surrogate: Toluene-d8	*0.0488*		mg/Kg wet	0.0500		97.6	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0508*		mg/Kg wet	0.0500		102	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes	
Batch B303426 - SW-846 5035												
LCS Dup (B303426-BSD1)				Prepared & Analyzed: 03/17/22								
Acetone	0.159	0.10	mg/Kg wet	0.200		79.7	40-160	12.2		20		†
tert-Amyl Methyl Ether (TAME)	0.0215	0.0010	mg/Kg wet	0.0200		108	70-130	15.0		20		
Benzene	0.0170	0.0020	mg/Kg wet	0.0200		84.9	70-130	7.58		20		
Bromobenzene	0.0184	0.0020	mg/Kg wet	0.0200		91.8	70-130	8.95		20		
Bromochloromethane	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130	1.13		20		
Bromodichloromethane	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	10.7		20		
Bromoform	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130	13.6		20		
Bromomethane	0.0203	0.010	mg/Kg wet	0.0200		101	40-160	0.591		20		†
2-Butanone (MEK)	0.181	0.040	mg/Kg wet	0.200		90.4	40-160	**21.6**	*	20	R-05	†
n-Butylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		92.1	70-130	4.46		20		
sec-Butylbenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-130	7.88		20		
tert-Butylbenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	1.17		20		
tert-Butyl Ethyl Ether (TBEE)	0.0190	0.0010	mg/Kg wet	0.0200		95.2	70-130	10.6		20		
Carbon Disulfide	0.169	0.010	mg/Kg wet	0.200		84.6	70-130	4.04		20		
Carbon Tetrachloride	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	5.02		20		
Chlorobenzene	0.0188	0.0020	mg/Kg wet	0.0200		94.2	70-130	8.63		20		
Chlorodibromomethane	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130	3.26		20		
Chloroethane	0.0167	0.020	mg/Kg wet	0.0200		83.5	70-130	0.597		20		
Chloroform	0.0183	0.0040	mg/Kg wet	0.0200		91.7	70-130	5.95		20		
Chloromethane	0.0178	0.010	mg/Kg wet	0.0200		89.1	40-160	6.37		20		†
2-Chlorotoluene	0.0196	0.0020	mg/Kg wet	0.0200		97.9	70-130	11.9		20		
4-Chlorotoluene	0.0199	0.0020	mg/Kg wet	0.0200		99.6	70-130	7.26		20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	3.22		20		
1,2-Dibromoethane (EDB)	0.0217	0.0010	mg/Kg wet	0.0200		108	70-130	6.38		20		
Dibromomethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	3.11		20		
1,2-Dichlorobenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	0.385		20		
1,3-Dichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		99.0	70-130	3.08		20		
1,4-Dichlorobenzene	0.0196	0.0020	mg/Kg wet	0.0200		98.0	70-130	4.49		20		
Dichlorodifluoromethane (Freon 12)	0.0181	0.020	mg/Kg wet	0.0200		90.7	40-160	4.39		20		†
1,1-Dichloroethane	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130	7.79		20		
1,2-Dichloroethane	0.0233	0.0020	mg/Kg wet	0.0200		117	70-130	5.83		20		
1,1-Dichloroethylene	0.0156	0.0040	mg/Kg wet	0.0200		77.9	70-130	3.53		20		
cis-1,2-Dichloroethylene	0.0188	0.0020	mg/Kg wet	0.0200		93.8	70-130	11.5		20		
trans-1,2-Dichloroethylene	0.0164	0.0020	mg/Kg wet	0.0200		81.9	70-130	0.122		20		
1,2-Dichloropropane	0.0177	0.0020	mg/Kg wet	0.0200		88.4	70-130	13.3		20		
1,3-Dichloropropane	0.0194	0.0010	mg/Kg wet	0.0200		96.9	70-130	1.87		20		
2,2-Dichloropropane	0.0194	0.0020	mg/Kg wet	0.0200		97.1	70-130	5.50		20		
1,1-Dichloropropene	0.0188	0.0020	mg/Kg wet	0.0200		94.0	70-130	6.71		20		
cis-1,3-Dichloropropene	0.0186	0.0010	mg/Kg wet	0.0200		93.0	70-130	6.09		20		
trans-1,3-Dichloropropene	0.0196	0.0010	mg/Kg wet	0.0200		97.8	70-130	4.07		20		
Diethyl Ether	0.0190	0.020	mg/Kg wet	0.0200		94.9	70-130	6.53		20		
Diisopropyl Ether (DIPE)	0.0176	0.0010	mg/Kg wet	0.0200		88.0	70-130	15.7		20		
1,4-Dioxane	0.219	0.10	mg/Kg wet	0.200		110	40-160	2.97		20		†
Ethylbenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	0.496		20		
Hexachlorobutadiene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	8.81		20		
2-Hexanone (MBK)	0.184	0.020	mg/Kg wet	0.200		92.1	40-160	17.2		20		†
Isopropylbenzene (Cumene)	0.0174	0.0020	mg/Kg wet	0.0200		87.2	70-130	9.19		20		
p-Isopropyltoluene (p-Cymene)	0.0187	0.0020	mg/Kg wet	0.0200		93.3	70-130	5.42		20		
Methyl tert-Butyl Ether (MTBE)	0.0209	0.0040	mg/Kg wet	0.0200		105	70-130	7.44		20		
Methylene Chloride	0.0152	0.020	mg/Kg wet	0.0200		76.2	70-130	4.29		20	V-05	
4-Methyl-2-pentanone (MIBK)	0.176	0.020	mg/Kg wet	0.200		88.1	40-160	14.0		20		†
Naphthalene	0.0183	0.0040	mg/Kg wet	0.0200		91.4	70-130	4.02		20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303426 - SW-846 5035										
LCS Dup (B303426-BSD1)				Prepared & Analyzed: 03/17/22						
n-Propylbenzene	0.0190	0.0020	mg/Kg wet	0.0200		94.9	70-130	9.15	20	
Styrene	0.0191	0.0020	mg/Kg wet	0.0200		95.4	70-130	6.10	20	
1,1,1,2-Tetrachloroethane	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	11.9	20	
1,1,2,2-Tetrachloroethane	0.0185	0.0010	mg/Kg wet	0.0200		92.7	70-130	13.1	20	
Tetrachloroethylene	0.0188	0.0020	mg/Kg wet	0.0200		93.9	70-130	14.2	20	
Tetrahydrofuran	0.0171	0.010	mg/Kg wet	0.0200		85.4	70-130	11.6	20	
Toluene	0.0181	0.0020	mg/Kg wet	0.0200		90.5	70-130	2.57	20	
1,2,3-Trichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130	2.00	20	
1,2,4-Trichlorobenzene	0.0178	0.0020	mg/Kg wet	0.0200		88.8	70-130	1.79	20	
1,1,1-Trichloroethane	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	6.97	20	
1,1,2-Trichloroethane	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130	8.91	20	
Trichloroethylene	0.0200	0.0020	mg/Kg wet	0.0200		99.8	70-130	11.1	20	
Trichlorofluoromethane (Freon 11)	0.0175	0.010	mg/Kg wet	0.0200		87.6	70-130	4.91	20	
1,2,3-Trichloropropane	0.0258	0.0020	mg/Kg wet	0.0200		129	70-130	0.772	20	
1,2,4-Trimethylbenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	2.63	20	
1,3,5-Trimethylbenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	5.33	20	
Vinyl Chloride	0.0161	0.010	mg/Kg wet	0.0200		80.4	70-130	3.66	20	
m+p Xylene	0.0390	0.0040	mg/Kg wet	0.0400		97.5	70-130	4.12	20	
o-Xylene	0.0194	0.0020	mg/Kg wet	0.0200		97.2	70-130	4.23	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0570*		mg/Kg wet	0.0500		114	70-130			
Surrogate: Toluene-d8	*0.0498*		mg/Kg wet	0.0500		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0487*		mg/Kg wet	0.0500		97.5	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303934 - SW-846 3546										
Blank (B303934-BLK1)				Prepared: 03/23/22 Analyzed: 03/24/22						
Biphenyl	ND	0.67	mg/Kg wet							
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							V-34
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							V-34
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine/Azobenzene	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							V-05

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B303934 - SW-846 3546											
Blank (B303934-BLK1)				Prepared: 03/23/22 Analyzed: 03/24/22							
Phenanthrene	ND	0.17	mg/Kg wet								
Phenol	ND	0.34	mg/Kg wet								
Pyrene	ND	0.17	mg/Kg wet								
Pyridine	ND	0.34	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet								
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet								
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet								
Surrogate: 2-Fluorophenol	*4.45*		mg/Kg wet	6.67		66.8	30-130				
Surrogate: Phenol-d6	*4.48*		mg/Kg wet	6.67		67.2	30-130				
Surrogate: Nitrobenzene-d5	*2.20*		mg/Kg wet	3.33		66.0	30-130				
Surrogate: 2-Fluorobiphenyl	*2.43*		mg/Kg wet	3.33		73.0	30-130				
Surrogate: 2,4,6-Tribromophenol	*4.93*		mg/Kg wet	6.67		73.9	30-130				
Surrogate: p-Terphenyl-d14	*2.49*		mg/Kg wet	3.33		74.7	30-130				
LCS (B303934-BS1)				Prepared: 03/23/22 Analyzed: 03/24/22							
Biphenyl	1.19	0.67	mg/Kg wet	1.67		71.4	40-140				
Acenaphthene	1.10	0.17	mg/Kg wet	1.67		65.9	40-140				
Acenaphthylene	1.21	0.17	mg/Kg wet	1.67		72.4	40-140				
Acetophenone	0.987	0.34	mg/Kg wet	1.67		59.2	40-140				
Aniline	0.908	0.34	mg/Kg wet	1.67		54.5	40-140				
Anthracene	1.24	0.17	mg/Kg wet	1.67		74.4	40-140				
Benzo(a)anthracene	1.24	0.17	mg/Kg wet	1.67		74.2	40-140				
Benzo(a)pyrene	1.31	0.17	mg/Kg wet	1.67		78.8	40-140				
Benzo(b)fluoranthene	1.24	0.17	mg/Kg wet	1.67		74.1	40-140				
Benzo(g,h,i)perylene	1.30	0.17	mg/Kg wet	1.67		77.8	40-140				
Benzo(k)fluoranthene	1.29	0.17	mg/Kg wet	1.67		77.2	40-140				
Bis(2-chloroethoxy)methane	1.03	0.34	mg/Kg wet	1.67		61.6	40-140				
Bis(2-chloroethyl)ether	0.952	0.34	mg/Kg wet	1.67		57.1	40-140				
Bis(2-chloroisopropyl)ether	1.08	0.34	mg/Kg wet	1.67		64.8	40-140				
Bis(2-Ethylhexyl)phthalate	1.14	0.34	mg/Kg wet	1.67		68.2	40-140				
4-Bromophenylphenylether	1.12	0.34	mg/Kg wet	1.67		67.3	40-140				
Butylbenzylphthalate	1.14	0.34	mg/Kg wet	1.67		68.7	40-140				
4-Chloroaniline	0.932	0.66	mg/Kg wet	1.67		55.9	15-140			V-34	†
2-Chloronaphthalene	1.02	0.34	mg/Kg wet	1.67		61.3	40-140				
2-Chlorophenol	1.02	0.34	mg/Kg wet	1.67		61.3	30-130				
Chrysene	1.18	0.17	mg/Kg wet	1.67		70.7	40-140				
Dibenz(a,h)anthracene	1.33	0.17	mg/Kg wet	1.67		79.5	40-140				
Dibenzofuran	1.28	0.34	mg/Kg wet	1.67		76.6	40-140				
Di-n-butylphthalate	1.08	0.34	mg/Kg wet	1.67		65.0	40-140				
1,2-Dichlorobenzene	1.06	0.34	mg/Kg wet	1.67		63.9	40-140				
1,3-Dichlorobenzene	1.04	0.34	mg/Kg wet	1.67		62.5	40-140				
1,4-Dichlorobenzene	1.04	0.34	mg/Kg wet	1.67		62.7	40-140				
3,3-Dichlorobenzidine	1.03	0.17	mg/Kg wet	1.67		62.0	40-140			V-34	
2,4-Dichlorophenol	1.07	0.34	mg/Kg wet	1.67		64.3	30-130				
Diethylphthalate	1.11	0.34	mg/Kg wet	1.67		66.9	40-140				
2,4-Dimethylphenol	1.10	0.34	mg/Kg wet	1.67		65.8	30-130				
Dimethylphthalate	1.13	0.34	mg/Kg wet	1.67		67.7	40-140				
2,4-Dinitrophenol	0.700	0.66	mg/Kg wet	1.67		42.0	15-140				†
2,4-Dinitrotoluene	1.22	0.34	mg/Kg wet	1.67		73.0	40-140				
2,6-Dinitrotoluene	1.29	0.34	mg/Kg wet	1.67		77.5	40-140				
Di-n-octylphthalate	1.12	0.34	mg/Kg wet	1.67		67.1	40-140				
1,2-Diphenylhydrazine/Azobenzene	1.15	0.34	mg/Kg wet	1.67		69.1	40-140				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B303934 - SW-846 3546											
LCS (B303934-BS1)				Prepared: 03/23/22 Analyzed: 03/24/22							
Fluoranthene	1.22	0.17	mg/Kg wet	1.67		73.3	40-140				
Fluorene	1.22	0.17	mg/Kg wet	1.67		73.1	40-140				
Hexachlorobenzene	1.23	0.34	mg/Kg wet	1.67		74.0	40-140				
Hexachlorobutadiene	1.08	0.34	mg/Kg wet	1.67		64.7	40-140				
Hexachloroethane	1.03	0.34	mg/Kg wet	1.67		61.8	40-140				
Indeno(1,2,3-cd)pyrene	1.33	0.17	mg/Kg wet	1.67		80.1	40-140				
Isophorone	1.15	0.34	mg/Kg wet	1.67		69.0	40-140				
2-Methylnaphthalene	1.19	0.17	mg/Kg wet	1.67		71.5	40-140				
2-Methylphenol	1.08	0.34	mg/Kg wet	1.67		64.5	30-130				
3/4-Methylphenol	1.04	0.34	mg/Kg wet	1.67		62.3	30-130				
Naphthalene	1.13	0.17	mg/Kg wet	1.67		67.6	40-140				
Nitrobenzene	1.06	0.34	mg/Kg wet	1.67		63.9	40-140				
2-Nitrophenol	1.05	0.34	mg/Kg wet	1.67		62.7	30-130				
4-Nitrophenol	0.890	0.66	mg/Kg wet	1.67		53.4	15-140				†
Pentachlorophenol	0.680	0.34	mg/Kg wet	1.67		40.8	30-130			V-05	
Phenanthrene	1.24	0.17	mg/Kg wet	1.67		74.4	40-140				
Phenol	0.997	0.34	mg/Kg wet	1.67		59.8	15-140				†
Pyrene	1.31	0.17	mg/Kg wet	1.67		78.6	40-140				
Pyridine	0.653	0.34	mg/Kg wet	1.67		39.2	30-140				†
1,2,4-Trichlorobenzene	1.13	0.34	mg/Kg wet	1.67		67.7	40-140				
2,4,5-Trichlorophenol	1.23	0.34	mg/Kg wet	1.67		73.6	30-130				
2,4,6-Trichlorophenol	1.14	0.34	mg/Kg wet	1.67		68.6	30-130				
Surrogate: 2-Fluorophenol	*4.76*		mg/Kg wet	6.67		71.4	30-130				
Surrogate: Phenol-d6	*4.64*		mg/Kg wet	6.67		69.6	30-130				
Surrogate: Nitrobenzene-d5	*2.27*		mg/Kg wet	3.33		68.0	30-130				
Surrogate: 2-Fluorobiphenyl	*2.49*		mg/Kg wet	3.33		74.7	30-130				
Surrogate: 2,4,6-Tribromophenol	*5.58*		mg/Kg wet	6.67		83.6	30-130				
Surrogate: p-Terphenyl-d14	*2.62*		mg/Kg wet	3.33		78.7	30-130				
LCS Dup (B303934-BSD1)				Prepared: 03/23/22 Analyzed: 03/24/22							
Biphenyl	1.20	0.67	mg/Kg wet	1.67		72.2	40-140	1.20	20		
Acenaphthene	1.09	0.17	mg/Kg wet	1.67		65.7	40-140	0.335	30		
Acenaphthylene	1.19	0.17	mg/Kg wet	1.67		71.6	40-140	1.11	30		
Acetophenone	0.974	0.34	mg/Kg wet	1.67		58.5	40-140	1.26	30		
Aniline	0.962	0.34	mg/Kg wet	1.67		57.7	40-140	5.85	30		
Anthracene	1.19	0.17	mg/Kg wet	1.67		71.2	40-140	4.34	30		
Benzo(a)anthracene	1.22	0.17	mg/Kg wet	1.67		73.4	40-140	1.08	30		
Benzo(a)pyrene	1.28	0.17	mg/Kg wet	1.67		76.6	40-140	2.86	30		
Benzo(b)fluoranthene	1.20	0.17	mg/Kg wet	1.67		72.3	40-140	2.51	30		
Benzo(g,h,i)perylene	1.27	0.17	mg/Kg wet	1.67		76.5	40-140	1.74	30		
Benzo(k)fluoranthene	1.28	0.17	mg/Kg wet	1.67		76.9	40-140	0.363	30		
Bis(2-chloroethoxy)methane	1.04	0.34	mg/Kg wet	1.67		62.6	40-140	1.58	30		
Bis(2-chloroethyl)ether	0.917	0.34	mg/Kg wet	1.67		55.0	40-140	3.78	30		
Bis(2-chloroisopropyl)ether	1.06	0.34	mg/Kg wet	1.67		63.8	40-140	1.46	30		
Bis(2-Ethylhexyl)phthalate	1.15	0.34	mg/Kg wet	1.67		68.9	40-140	1.11	30		
4-Bromophenylphenylether	1.10	0.34	mg/Kg wet	1.67		65.9	40-140	2.10	30		
Butylbenzylphthalate	1.17	0.34	mg/Kg wet	1.67		70.3	40-140	2.39	30		
4-Chloroaniline	0.921	0.66	mg/Kg wet	1.67		55.3	15-140	1.12	30	V-34	†
2-Chloronaphthalene	1.03	0.34	mg/Kg wet	1.67		62.0	40-140	1.10	30		
2-Chlorophenol	1.01	0.34	mg/Kg wet	1.67		60.4	30-130	1.48	30		
Chrysene	1.17	0.17	mg/Kg wet	1.67		70.0	40-140	0.995	30		
Dibenz(a,h)anthracene	1.30	0.17	mg/Kg wet	1.67		78.2	40-140	1.72	30		

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B303934 - SW-846 3546											
LCS Dup (B303934-BSD1)				Prepared: 03/23/22 Analyzed: 03/24/22							
Dibenzofuran	1.27	0.34	mg/Kg wet	1.67		76.0	40-140	0.682	30		
Di-n-butylphthalate	1.09	0.34	mg/Kg wet	1.67		65.6	40-140	0.919	30		
1,2-Dichlorobenzene	1.02	0.34	mg/Kg wet	1.67		61.3	40-140	4.09	30		
1,3-Dichlorobenzene	0.976	0.34	mg/Kg wet	1.67		58.6	40-140	6.41	30		
1,4-Dichlorobenzene	1.00	0.34	mg/Kg wet	1.67		60.2	40-140	3.97	30		
3,3-Dichlorobenzidine	1.04	0.17	mg/Kg wet	1.67		62.5	40-140	0.836	30	V-34	
2,4-Dichlorophenol	1.05	0.34	mg/Kg wet	1.67		63.1	30-130	1.85	30		
Diethylphthalate	1.10	0.34	mg/Kg wet	1.67		66.3	40-140	0.871	30		
2,4-Dimethylphenol	1.10	0.34	mg/Kg wet	1.67		65.7	30-130	0.0913	30		
Dimethylphthalate	1.11	0.34	mg/Kg wet	1.67		66.3	40-140	1.97	30		
2,4-Dinitrophenol	0.684	0.66	mg/Kg wet	1.67		41.0	15-140	2.31	30		†
2,4-Dinitrotoluene	1.20	0.34	mg/Kg wet	1.67		71.8	40-140	1.60	30		
2,6-Dinitrotoluene	1.23	0.34	mg/Kg wet	1.67		73.9	40-140	4.73	30		
Di-n-octylphthalate	1.12	0.34	mg/Kg wet	1.67		67.2	40-140	0.238	30		
1,2-Diphenylhydrazine/Azobenzene	1.14	0.34	mg/Kg wet	1.67		68.5	40-140	0.959	30		
Fluoranthene	1.19	0.17	mg/Kg wet	1.67		71.5	40-140	2.43	30		
Fluorene	1.20	0.17	mg/Kg wet	1.67		71.7	40-140	1.96	30		
Hexachlorobenzene	1.24	0.34	mg/Kg wet	1.67		74.1	40-140	0.162	30		
Hexachlorobutadiene	1.09	0.34	mg/Kg wet	1.67		65.2	40-140	0.739	30		
Hexachloroethane	0.986	0.34	mg/Kg wet	1.67		59.1	40-140	4.40	30		
Indeno(1,2,3-cd)pyrene	1.29	0.17	mg/Kg wet	1.67		77.3	40-140	3.58	30		
Isophorone	1.16	0.34	mg/Kg wet	1.67		69.8	40-140	1.15	30		
2-Methylnaphthalene	1.20	0.17	mg/Kg wet	1.67		72.3	40-140	1.14	30		
2-Methylphenol	1.08	0.34	mg/Kg wet	1.67		64.7	30-130	0.279	30		
3/4-Methylphenol	1.02	0.34	mg/Kg wet	1.67		61.2	30-130	1.91	30		
Naphthalene	1.10	0.17	mg/Kg wet	1.67		65.9	40-140	2.55	30		
Nitrobenzene	1.04	0.34	mg/Kg wet	1.67		62.4	40-140	2.41	30		
2-Nitrophenol	1.05	0.34	mg/Kg wet	1.67		63.2	30-130	0.667	30		
4-Nitrophenol	0.857	0.66	mg/Kg wet	1.67		51.4	15-140	3.70	30		†
Pentachlorophenol	0.678	0.34	mg/Kg wet	1.67		40.7	30-130	0.245	30	V-05	
Phenanthrene	1.21	0.17	mg/Kg wet	1.67		72.6	40-140	2.48	30		
Phenol	0.968	0.34	mg/Kg wet	1.67		58.1	15-140	2.99	30		†
Pyrene	1.29	0.17	mg/Kg wet	1.67		77.4	40-140	1.46	30		
Pyridine	0.598	0.34	mg/Kg wet	1.67		35.9	30-140	8.84	30		†
1,2,4-Trichlorobenzene	1.11	0.34	mg/Kg wet	1.67		66.7	40-140	1.43	30		
2,4,5-Trichlorophenol	1.18	0.34	mg/Kg wet	1.67		70.7	30-130	3.97	30		
2,4,6-Trichlorophenol	1.11	0.34	mg/Kg wet	1.67		66.6	30-130	2.87	30		
Surrogate: 2-Fluorophenol	*4.62*		mg/Kg wet	6.67		69.2	30-130				
Surrogate: Phenol-d6	*4.47*		mg/Kg wet	6.67		67.0	30-130				
Surrogate: Nitrobenzene-d5	*2.24*		mg/Kg wet	3.33		67.4	30-130				
Surrogate: 2-Fluorobiphenyl	*2.50*		mg/Kg wet	3.33		75.0	30-130				
Surrogate: 2,4,6-Tribromophenol	*5.46*		mg/Kg wet	6.67		81.9	30-130				
Surrogate: p-Terphenyl-d14	*2.62*		mg/Kg wet	3.33		78.7	30-130				

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303383 - SW-846 3546										
Blank (B303383-BLK1)				Prepared: 03/16/22 Analyzed: 03/20/22						
Aldrin	ND	0.0050	mg/Kg wet							
Aldrin [2C]	ND	0.0050	mg/Kg wet							
alpha-BHC	ND	0.0050	mg/Kg wet							
alpha-BHC [2C]	ND	0.0050	mg/Kg wet							
beta-BHC	ND	0.0050	mg/Kg wet							
beta-BHC [2C]	ND	0.0050	mg/Kg wet							
delta-BHC	ND	0.0050	mg/Kg wet							
delta-BHC [2C]	ND	0.0050	mg/Kg wet							
gamma-BHC (Lindane)	ND	0.0020	mg/Kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0020	mg/Kg wet							
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
4,4'-DDD	ND	0.0040	mg/Kg wet							
4,4'-DDD [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDE	ND	0.0040	mg/Kg wet							
4,4'-DDE [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDT	ND	0.0040	mg/Kg wet							
4,4'-DDT [2C]	ND	0.0040	mg/Kg wet							
Dieldrin	ND	0.0040	mg/Kg wet							
Dieldrin [2C]	ND	0.0040	mg/Kg wet							
Endosulfan I	ND	0.0050	mg/Kg wet							
Endosulfan I [2C]	ND	0.0050	mg/Kg wet							
Endosulfan II	ND	0.0080	mg/Kg wet							
Endosulfan II [2C]	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate [2C]	ND	0.0080	mg/Kg wet							
Endrin	ND	0.0080	mg/Kg wet							
Endrin [2C]	ND	0.0080	mg/Kg wet							
Endrin Aldehyde	ND	0.0080	mg/Kg wet							
Endrin Aldehyde [2C]	ND	0.0080	mg/Kg wet							
Endrin Ketone	ND	0.0080	mg/Kg wet							
Endrin Ketone [2C]	ND	0.0080	mg/Kg wet							
Heptachlor	ND	0.0050	mg/Kg wet							
Heptachlor [2C]	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide [2C]	ND	0.0050	mg/Kg wet							
Hexachlorobenzene	ND	0.0060	mg/Kg wet							
Hexachlorobenzene [2C]	ND	0.0060	mg/Kg wet							
Methoxychlor	ND	0.050	mg/Kg wet							
Methoxychlor [2C]	ND	0.050	mg/Kg wet							
Toxaphene	ND	0.10	mg/Kg wet							
Toxaphene [2C]	ND	0.10	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.146*		mg/Kg wet	0.200		73.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.168*		mg/Kg wet	0.200		84.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.192*		mg/Kg wet	0.200		96.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.144*		mg/Kg wet	0.200		72.2	30-150			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303383 - SW-846 3546										
LCS (B303383-BS1)				Prepared: 03/16/22 Analyzed: 03/20/22						
Aldrin	0.092	0.0050	mg/Kg wet	0.100		91.6	40-140			
Aldrin [2C]	0.078	0.0050	mg/Kg wet	0.100		78.4	40-140			
alpha-BHC	0.094	0.0050	mg/Kg wet	0.100		94.1	40-140			
alpha-BHC [2C]	0.077	0.0050	mg/Kg wet	0.100		77.1	40-140			
beta-BHC	0.090	0.0050	mg/Kg wet	0.100		90.5	40-140			
beta-BHC [2C]	0.073	0.0050	mg/Kg wet	0.100		72.7	40-140			
delta-BHC	0.091	0.0050	mg/Kg wet	0.100		90.7	40-140			
delta-BHC [2C]	0.077	0.0050	mg/Kg wet	0.100		76.7	40-140			
gamma-BHC (Lindane)	0.093	0.0020	mg/Kg wet	0.100		93.3	40-140			
gamma-BHC (Lindane) [2C]	0.076	0.0020	mg/Kg wet	0.100		76.2	40-140			
4,4'-DDD	0.093	0.0040	mg/Kg wet	0.100		92.6	40-140			
4,4'-DDD [2C]	0.10	0.0040	mg/Kg wet	0.100		104	40-140			
4,4'-DDE	0.090	0.0040	mg/Kg wet	0.100		90.1	40-140			
4,4'-DDE [2C]	0.096	0.0040	mg/Kg wet	0.100		96.4	40-140			
4,4'-DDT	0.091	0.0040	mg/Kg wet	0.100		90.8	40-140			
4,4'-DDT [2C]	0.10	0.0040	mg/Kg wet	0.100		103	40-140			
Dieldrin	0.086	0.0040	mg/Kg wet	0.100		85.9	40-140			
Dieldrin [2C]	0.087	0.0040	mg/Kg wet	0.100		87.0	40-140			
Endosulfan I	0.087	0.0050	mg/Kg wet	0.100		87.3	40-140			
Endosulfan I [2C]	0.081	0.0050	mg/Kg wet	0.100		81.0	40-140			
Endosulfan II	0.086	0.0080	mg/Kg wet	0.100		86.2	40-140			
Endosulfan II [2C]	0.092	0.0080	mg/Kg wet	0.100		92.1	40-140			
Endosulfan Sulfate	0.073	0.0080	mg/Kg wet	0.100		73.0	40-140			
Endosulfan Sulfate [2C]	0.10	0.0080	mg/Kg wet	0.100		99.6	40-140			
Endrin	0.088	0.0080	mg/Kg wet	0.100		88.5	40-140			
Endrin [2C]	0.090	0.0080	mg/Kg wet	0.100		89.8	40-140			
Endrin Ketone	0.095	0.0080	mg/Kg wet	0.100		94.8	40-140			
Endrin Ketone [2C]	0.10	0.0080	mg/Kg wet	0.100		104	40-140			
Heptachlor	0.091	0.0050	mg/Kg wet	0.100		91.0	40-140			
Heptachlor [2C]	0.076	0.0050	mg/Kg wet	0.100		76.0	40-140			
Heptachlor Epoxide	0.086	0.0050	mg/Kg wet	0.100		85.9	40-140			
Heptachlor Epoxide [2C]	0.076	0.0050	mg/Kg wet	0.100		76.0	40-140			
Hexachlorobenzene	0.097	0.0060	mg/Kg wet	0.100		97.1	40-140			
Hexachlorobenzene [2C]	0.080	0.0060	mg/Kg wet	0.100		79.8	40-140			
Methoxychlor	0.091	0.050	mg/Kg wet	0.100		91.3	40-140			
Methoxychlor [2C]	0.10	0.050	mg/Kg wet	0.100		104	40-140			
Surrogate: Decachlorobiphenyl	*0.149*		mg/Kg wet	0.200		74.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.171*		mg/Kg wet	0.200		85.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.199*		mg/Kg wet	0.200		99.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.141*		mg/Kg wet	0.200		70.6	30-150			
LCS Dup (B303383-BSD1)				Prepared: 03/16/22 Analyzed: 03/20/22						
Aldrin	0.086	0.0050	mg/Kg wet	0.100		85.9	40-140	6.41	30	
Aldrin [2C]	0.084	0.0050	mg/Kg wet	0.100		83.6	40-140	6.45	30	
alpha-BHC	0.086	0.0050	mg/Kg wet	0.100		86.2	40-140	8.82	30	
alpha-BHC [2C]	0.084	0.0050	mg/Kg wet	0.100		84.3	40-140	8.91	30	
beta-BHC	0.085	0.0050	mg/Kg wet	0.100		85.4	40-140	5.70	30	
beta-BHC [2C]	0.079	0.0050	mg/Kg wet	0.100		79.4	40-140	8.78	30	
delta-BHC	0.086	0.0050	mg/Kg wet	0.100		85.8	40-140	5.54	30	
delta-BHC [2C]	0.083	0.0050	mg/Kg wet	0.100		83.4	40-140	8.29	30	
gamma-BHC (Lindane)	0.086	0.0020	mg/Kg wet	0.100		86.2	40-140	7.85	30	
gamma-BHC (Lindane) [2C]	0.083	0.0020	mg/Kg wet	0.100		83.4	40-140	9.07	30	

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303383 - SW-846 3546										
LCS Dup (B303383-BSD1)				Prepared: 03/16/22 Analyzed: 03/20/22						
4,4'-DDD	0.091	0.0040	mg/Kg wet	0.100		90.7	40-140	2.10	30	
4,4'-DDD [2C]	0.10	0.0040	mg/Kg wet	0.100		103	40-140	1.22	30	
4,4'-DDE	0.087	0.0040	mg/Kg wet	0.100		87.2	40-140	3.22	30	
4,4'-DDE [2C]	0.097	0.0040	mg/Kg wet	0.100		96.7	40-140	0.260	30	
4,4'-DDT	0.090	0.0040	mg/Kg wet	0.100		90.0	40-140	0.846	30	
4,4'-DDT [2C]	0.10	0.0040	mg/Kg wet	0.100		102	40-140	1.15	30	
Dieldrin	0.082	0.0040	mg/Kg wet	0.100		82.3	40-140	4.29	30	
Dieldrin [2C]	0.089	0.0040	mg/Kg wet	0.100		89.2	40-140	2.58	30	
Endosulfan I	0.084	0.0050	mg/Kg wet	0.100		83.7	40-140	4.25	30	
Endosulfan I [2C]	0.084	0.0050	mg/Kg wet	0.100		83.7	40-140	3.20	30	
Endosulfan II	0.084	0.0080	mg/Kg wet	0.100		83.7	40-140	3.01	30	
Endosulfan II [2C]	0.093	0.0080	mg/Kg wet	0.100		92.6	40-140	0.559	30	
Endosulfan Sulfate	0.071	0.0080	mg/Kg wet	0.100		70.7	40-140	3.29	30	
Endosulfan Sulfate [2C]	0.098	0.0080	mg/Kg wet	0.100		98.3	40-140	1.33	30	
Endrin	0.085	0.0080	mg/Kg wet	0.100		85.4	40-140	3.54	30	
Endrin [2C]	0.092	0.0080	mg/Kg wet	0.100		92.1	40-140	2.51	30	
Endrin Ketone	0.093	0.0080	mg/Kg wet	0.100		93.5	40-140	1.40	30	
Endrin Ketone [2C]	0.10	0.0080	mg/Kg wet	0.100		102	40-140	1.71	30	
Heptachlor	0.085	0.0050	mg/Kg wet	0.100		84.7	40-140	7.17	30	
Heptachlor [2C]	0.082	0.0050	mg/Kg wet	0.100		82.2	40-140	7.84	30	
Heptachlor Epoxide	0.082	0.0050	mg/Kg wet	0.100		81.8	40-140	4.91	30	
Heptachlor Epoxide [2C]	0.081	0.0050	mg/Kg wet	0.100		80.6	40-140	5.86	30	
Hexachlorobenzene	0.089	0.0060	mg/Kg wet	0.100		88.5	40-140	9.22	30	
Hexachlorobenzene [2C]	0.085	0.0060	mg/Kg wet	0.100		84.7	40-140	5.95	30	
Methoxychlor	0.090	0.050	mg/Kg wet	0.100		90.3	40-140	1.08	30	
Methoxychlor [2C]	0.10	0.050	mg/Kg wet	0.100		103	40-140	1.05	30	
Surrogate: Decachlorobiphenyl	*0.151*		mg/Kg wet	0.200		75.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.170*		mg/Kg wet	0.200		85.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.149*		mg/Kg wet	0.200		74.7	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303758 - SW-846 8151										
Blank (B303758-BLK1)				Prepared: 03/22/22 Analyzed: 03/25/22						
2,4-D	ND	24	µg/kg wet							
2,4-D [2C]	ND	24	µg/kg wet							
2,4-DB	ND	24	µg/kg wet							
2,4-DB [2C]	ND	24	µg/kg wet							
2,4,5-TP (Silvex)	ND	2.4	µg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	2.4	µg/kg wet							
2,4,5-T	ND	2.4	µg/kg wet							
2,4,5-T [2C]	ND	2.4	µg/kg wet							
Dalapon	ND	60	µg/kg wet							
Dalapon [2C]	ND	60	µg/kg wet							
Dicamba	ND	2.4	µg/kg wet							
Dicamba [2C]	ND	2.4	µg/kg wet							
Dichloroprop	ND	24	µg/kg wet							
Dichloroprop [2C]	ND	24	µg/kg wet							
MCPA	ND	2400	µg/kg wet							
MCPA [2C]	ND	2400	µg/kg wet							
MCPP	ND	2400	µg/kg wet							
MCPP [2C]	ND	2400	µg/kg wet							
Surrogate: 2,4-Dichlorophenylacetic acid	*70.1*		µg/kg wet	95.2		73.6	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*70.6*		µg/kg wet	95.2		74.1	30-150			
LCS (B303758-BS1)				Prepared: 03/22/22 Analyzed: 03/25/22						
2,4-D	112	25	µg/kg wet	125		89.8	40-140			
2,4-D [2C]	113	25	µg/kg wet	125		90.3	40-140			
2,4-DB	105	25	µg/kg wet	125		83.7	40-140			
2,4-DB [2C]	105	25	µg/kg wet	125		84.0	40-140			
2,4,5-TP (Silvex)	10.8	2.5	µg/kg wet	12.5		86.6	40-140			
2,4,5-TP (Silvex) [2C]	11.2	2.5	µg/kg wet	12.5		89.4	40-140			
2,4,5-T	10.6	2.5	µg/kg wet	12.5		84.4	40-140			
2,4,5-T [2C]	10.4	2.5	µg/kg wet	12.5		83.0	40-140			
Dalapon	195	62	µg/kg wet	312		62.3	40-140			
Dalapon [2C]	183	62	µg/kg wet	312		58.7	40-140			
Dicamba	10.7	2.5	µg/kg wet	12.5		85.8	40-140			
Dicamba [2C]	10.6	2.5	µg/kg wet	12.5		84.8	40-140			
Dichloroprop	110	25	µg/kg wet	125		87.7	40-140			
Dichloroprop [2C]	114	25	µg/kg wet	125		90.9	40-140			
MCPA	10500	2500	µg/kg wet	12500		84.2	40-140			
MCPA [2C]	9880	2500	µg/kg wet	12500		79.0	40-140			
MCPP	10800	2500	µg/kg wet	12500		86.1	40-140			
MCPP [2C]	10300	2500	µg/kg wet	12500		82.5	40-140			
Surrogate: 2,4-Dichlorophenylacetic acid	*81.3*		µg/kg wet	100		81.3	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*82.2*		µg/kg wet	100		82.2	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303758 - SW-846 8151										
LCS Dup (B303758-BSD1)				Prepared: 03/22/22 Analyzed: 03/25/22						
2,4-D	111	25	µg/kg wet	125		88.8	40-140	1.10	30	
2,4-D [2C]	111	25	µg/kg wet	125		88.9	40-140	1.63	30	
2,4-DB	108	25	µg/kg wet	125		86.1	40-140	2.89	30	
2,4-DB [2C]	107	25	µg/kg wet	125		85.4	40-140	1.62	30	
2,4,5-TP (Silvex)	11.1	2.5	µg/kg wet	12.5		88.9	40-140	2.65	30	
2,4,5-TP (Silvex) [2C]	11.0	2.5	µg/kg wet	12.5		88.3	40-140	1.15	30	
2,4,5-T	10.2	2.5	µg/kg wet	12.5		81.3	40-140	3.81	30	
2,4,5-T [2C]	10.2	2.5	µg/kg wet	12.5		81.7	40-140	1.65	30	
Dalapon	189	62	µg/kg wet	312		60.3	40-140	3.23	30	
Dalapon [2C]	177	62	µg/kg wet	312		56.7	40-140	3.38	30	
Dicamba	10.3	2.5	µg/kg wet	12.5		82.8	40-140	3.53	30	
Dicamba [2C]	10.4	2.5	µg/kg wet	12.5		83.2	40-140	1.90	30	
Dichloroprop	109	25	µg/kg wet	125		86.9	40-140	0.899	30	
Dichloroprop [2C]	112	25	µg/kg wet	125		89.8	40-140	1.20	30	
MCPA	10300	2500	µg/kg wet	12500		82.4	40-140	2.20	30	
MCPA [2C]	9700	2500	µg/kg wet	12500		77.6	40-140	1.79	30	
MCPP	10800	2500	µg/kg wet	12500		86.0	40-140	0.0622	30	
MCPP [2C]	10100	2500	µg/kg wet	12500		80.7	40-140	2.19	30	
Surrogate: 2,4-Dichlorophenylacetic acid	*75.7*		µg/kg wet	100		75.7	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*75.9*		µg/kg wet	100		75.9	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303434 - SW-846 3540C										
Blank (B303434-BLK1)				Prepared: 03/17/22 Analyzed: 03/19/22						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Total PCB Aroclors	0.0		mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.187*		mg/Kg wet	0.200		93.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.161*		mg/Kg wet	0.200		80.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.153*		mg/Kg wet	0.200		76.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.142*		mg/Kg wet	0.200		71.2	30-150			
LCS (B303434-BS1)				Prepared: 03/17/22 Analyzed: 03/19/22						
Aroclor-1016	0.18	0.020	mg/Kg wet	0.200		90.2	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.3	40-140			
Aroclor-1254	ND	0.020	mg/Kg wet				40-140			
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet				40-140			
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		96.1	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		84.7	40-140			
Surrogate: Decachlorobiphenyl	*0.227*		mg/Kg wet	0.200		114	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.194*		mg/Kg wet	0.200		97.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.165*		mg/Kg wet	0.200		82.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.151*		mg/Kg wet	0.200		75.7	30-150			
LCS Dup (B303434-BSD1)				Prepared: 03/17/22 Analyzed: 03/19/22						
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		87.2	40-140	3.33	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		79.4	40-140	1.43	30	
Aroclor-1254	ND	0.020	mg/Kg wet				40-140	NC	30	
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet				40-140	NC	30	
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		92.5	40-140	3.79	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.5	40-140	3.86	30	
Surrogate: Decachlorobiphenyl	*0.222*		mg/Kg wet	0.200		111	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.162*		mg/Kg wet	0.200		80.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.147*		mg/Kg wet	0.200		73.5	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303449 - SW-846 3546										
Blank (B303449-BLK1)				Prepared: 03/17/22 Analyzed: 03/19/22						
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: 2-Fluorobiphenyl	*2.49*		mg/Kg wet	3.33		74.6	40-140			
LCS (B303449-BS1)				Prepared: 03/17/22 Analyzed: 03/19/22						
TPH (C9-C36)	23.6	8.3	mg/Kg wet	33.3		70.7	40-140			
Surrogate: 2-Fluorobiphenyl	*2.10*		mg/Kg wet	3.33		63.0	40-140			
LCS Dup (B303449-BSD1)				Prepared: 03/17/22 Analyzed: 03/19/22						
TPH (C9-C36)	26.8	8.3	mg/Kg wet	33.3		80.4	40-140	12.9	25	
Surrogate: 2-Fluorobiphenyl	*2.24*		mg/Kg wet	3.33		67.3	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303440 - SW-846 3050B										
Blank (B303440-BLK1)				Prepared: 03/17/22 Analyzed: 03/21/22						
Antimony	ND	1.6	mg/Kg wet							
Arsenic	ND	3.1	mg/Kg wet							
Barium	ND	1.6	mg/Kg wet							
Beryllium	ND	0.16	mg/Kg wet							
Cadmium	ND	0.31	mg/Kg wet							
Chromium	ND	0.63	mg/Kg wet							
Lead	ND	0.47	mg/Kg wet							
Nickel	ND	0.63	mg/Kg wet							
Selenium	ND	3.1	mg/Kg wet							
Silver	ND	0.31	mg/Kg wet							
Thallium	ND	1.6	mg/Kg wet							
Vanadium	ND	0.63	mg/Kg wet							
Zinc	ND	0.63	mg/Kg wet							
LCS (B303440-BS1)				Prepared: 03/17/22 Analyzed: 03/21/22						
Antimony	79.8	5.0	mg/Kg wet	99.5		80.2	2.5-209			
Arsenic	132	9.9	mg/Kg wet	140		94.1	82.9-117.9			
Barium	204	5.0	mg/Kg wet	202		101	81.2-118.3			
Beryllium	43.8	0.50	mg/Kg wet	42.6		103	81-119			
Cadmium	92.4	0.99	mg/Kg wet	97.9		94.3	80-119.5			
Chromium	60.0	2.0	mg/Kg wet	60.4		99.3	80.3-119.7			
Lead	53.3	1.5	mg/Kg wet	56.7		93.9	82.9-116.9			
Nickel	150	2.0	mg/Kg wet	151		99.4	79.5-121.2			
Selenium	35.0	9.9	mg/Kg wet	35.5		98.6	77.5-122.3			
Silver	20.6	0.99	mg/Kg wet	20.4		101	79.4-121.1			
Thallium	70.1	5.0	mg/Kg wet	69.3		101	79.4-120.6			
Vanadium	43.2	2.0	mg/Kg wet	44.9		96.3	78-121.8			
Zinc	181	2.0	mg/Kg wet	186		97.2	79-121			
LCS Dup (B303440-BSD1)				Prepared: 03/17/22 Analyzed: 03/21/22						
Antimony	79.5	4.9	mg/Kg wet	99.5		79.9	2.5-209	0.386	30	
Arsenic	137	9.8	mg/Kg wet	140		98.0	82.9-117.9	4.11	30	
Barium	223	4.9	mg/Kg wet	202		111	81.2-118.3	8.92	20	
Beryllium	46.3	0.49	mg/Kg wet	42.6		109	81-119	5.47	30	
Cadmium	97.8	0.98	mg/Kg wet	97.9		99.9	80-119.5	5.74	20	
Chromium	61.9	2.0	mg/Kg wet	60.4		102	80.3-119.7	3.15	30	
Lead	56.7	1.5	mg/Kg wet	56.7		99.9	82.9-116.9	6.19	30	
Nickel	158	2.0	mg/Kg wet	151		105	79.5-121.2	5.35	30	
Selenium	35.8	9.8	mg/Kg wet	35.5		101	77.5-122.3	2.14	30	
Silver	21.0	0.98	mg/Kg wet	20.4		103	79.4-121.1	2.09	30	
Thallium	72.9	4.9	mg/Kg wet	69.3		105	79.4-120.6	3.93	30	
Vanadium	45.7	2.0	mg/Kg wet	44.9		102	78-121.8	5.63	30	
Zinc	189	2.0	mg/Kg wet	186		102	79-121	4.57	30	

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303440 - SW-846 3050B										
Reference (B303440-SRM1) MRL CHECK				Prepared: 03/17/22 Analyzed: 03/21/22						
Lead	0.445	0.50	mg/Kg wet	0.497		89.4	83.6-116.5			
Batch B304059 - SW-846 7470A/7471A										
Blank (B304059-BLK1)				Prepared: 03/24/22 Analyzed: 03/27/22						
Mercury	ND	0.025	mg/Kg wet							
LCS (B304059-BS1)				Prepared: 03/24/22 Analyzed: 03/27/22						
Mercury	16.2	0.76	mg/Kg wet	16.5		98.2	74.5-124.8			
LCS Dup (B304059-BSD1)				Prepared: 03/24/22 Analyzed: 03/27/22						
Mercury	17.3	0.78	mg/Kg wet	16.5		105	74.5-124.8	6.29	20	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B303500 - SW-846 9045C										
LCS (B303500-BS1)				Prepared & Analyzed: 03/17/22						
pH	5.99		pH Units	6.00		99.8	90-110			
LCS (B303500-BS2)				Prepared & Analyzed: 03/17/22						
pH	5.97		pH Units	6.00		99.5	90-110			
Duplicate (B303500-DUP1)	**Source: 22C1091-01**			Prepared & Analyzed: 03/17/22						
pH	8.9		pH Units		8.8			0.838	10	
Batch B303558 - SW-846 7.3										
Blank (B303558-BLK1)				Prepared: 03/18/22 Analyzed: 03/19/22						
Reactive Sulfide	ND	2.0	mg/Kg							
LCS (B303558-BS1)				Prepared: 03/18/22 Analyzed: 03/19/22						
Reactive Sulfide	10	2.0	mg/Kg	12.0		86.4	71.8-120			
Batch B303559 - SW-846 7.3										
Blank (B303559-BLK1)				Prepared: 03/18/22 Analyzed: 03/19/22						
Reactive Cyanide	ND	0.40	mg/Kg							
LCS (B303559-BS1)				Prepared: 03/18/22 Analyzed: 03/19/22						
Reactive Cyanide	9.4	0.40	mg/Kg	10.0		94.4	81.3-111			
Batch B303591 - % Solids										
Duplicate (B303591-DUP1)	**Source: 22C1091-01**			Prepared: 03/18/22 Analyzed: 03/21/22						
% Solids	88.3		% Wt		87.0			1.47	5	
Batch B303605 - SM21-23 2510B Modified										
Blank (B303605-BLK1)				Prepared & Analyzed: 03/19/22						
Specific conductance	ND	2.0	µmhos/cm							
LCS (B303605-BS1)				Prepared & Analyzed: 03/19/22						
Specific conductance	160		µmhos/cm	137		114	90-114			

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BREAKDOWN REPORT

Lab Sample ID:	S069425-PEM1	Analyzed:	03/20/2022

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	4.56
Endrin [1]	1.87

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	3.99
Endrin [2]	2.12

BREAKDOWN REPORT

Lab Sample ID:	S069425-PEM2	Analyzed:	03/20/2022

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	5.23
Endrin [1]	2.78

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	4.05
Endrin [2]	2.34

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B303383-BS1 Date(s) Analyzed: 03/20/2022 03/20/2022

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDD	1	7.613	0.000	0.000	0.093	
	2	7.596	0.000	0.000	0.10	7.3
4,4'-DDE	1	7.155	0.000	0.000	0.090	
	2	7.152	0.000	0.000	0.096	6.5
4,4'-DDT	1	7.831	0.000	0.000	0.091	
	2	7.842	0.000	0.000	0.10	9.4
Aldrin	1	6.475	0.000	0.000	0.092	
	2	6.372	0.000	0.000	0.078	16.5
alpha-BHC	1	5.716	0.000	0.000	0.094	
	2	5.619	0.000	0.000	0.077	19.9
beta-BHC	1	5.986	0.000	0.000	0.090	
	2	5.903	0.000	0.000	0.073	22.0
delta-BHC	1	6.111	0.000	0.000	0.091	
	2	6.102	0.000	0.000	0.077	16.7
Dieldrin	1	7.394	0.000	0.000	0.086	
	2	7.274	0.000	0.000	0.087	1.2
Endosulfan I	1	7.213	0.000	0.000	0.087	
	2	7.068	0.000	0.000	0.081	7.1
Endosulfan II	1	7.748	0.000	0.000	0.086	
	2	7.672	0.000	0.000	0.092	6.7
Endosulfan Sulfate	1	8.363	0.000	0.000	0.073	
	2	8.138	0.000	0.000	0.10	31.2
Endrin	1	7.574	0.000	0.000	0.088	
	2	7.507	0.000	0.000	0.090	1.1
Endrin Ketone	1	8.540	0.000	0.000	0.095	
	2	8.489	0.000	0.000	0.10	5.1
gamma-BHC (Lindane)	1	5.930	0.000	0.000	0.093	
	2	5.849	0.000	0.000	0.076	20.1
Heptachlor	1	6.259	0.000	0.000	0.091	
	2	6.147	0.000	0.000	0.076	18.0
Heptachlor Epoxide	1	6.916	0.000	0.000	0.086	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B303383-BS1 Date(s) Analyzed: 03/20/2022 03/20/2022

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
	2	6.779	0.000	0.000	0.076	12.3
Hexachlorobenzene	1	5.602	0.000	0.000	0.097	
	2	5.531	0.000	0.000	0.080	19.2
Methoxychlor	1	8.180	0.000	0.000	0.091	
	2	8.337	0.000	0.000	0.10	9.4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B303383-BSD1 Date(s) Analyzed: 03/20/2022 03/20/2022

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDD	1	7.613	0.000	0.000	0.091	
	2	7.597	0.000	0.000	0.10	9.4
4,4'-DDE	1	7.155	0.000	0.000	0.087	
	2	7.152	0.000	0.000	0.097	10.9
4,4'-DDT	1	7.831	0.000	0.000	0.090	
	2	7.843	0.000	0.000	0.10	10.5
Aldrin	1	6.475	0.000	0.000	0.086	
	2	6.372	0.000	0.000	0.084	2.4
alpha-BHC	1	5.716	0.000	0.000	0.086	
	2	5.620	0.000	0.000	0.084	2.4
beta-BHC	1	5.985	0.000	0.000	0.085	
	2	5.904	0.000	0.000	0.079	7.3
delta-BHC	1	6.111	0.000	0.000	0.086	
	2	6.102	0.000	0.000	0.083	3.6
Dieldrin	1	7.394	0.000	0.000	0.082	
	2	7.275	0.000	0.000	0.089	8.2
Endosulfan I	1	7.213	0.000	0.000	0.084	
	2	7.069	0.000	0.000	0.084	0.0
Endosulfan II	1	7.748	0.000	0.000	0.084	
	2	7.672	0.000	0.000	0.093	10.2
Endosulfan Sulfate	1	8.363	0.000	0.000	0.071	
	2	8.139	0.000	0.000	0.098	32.0
Endrin	1	7.574	0.000	0.000	0.085	
	2	7.507	0.000	0.000	0.092	7.9
Endrin Ketone	1	8.541	0.000	0.000	0.093	
	2	8.489	0.000	0.000	0.10	6.2
gamma-BHC (Lindane)	1	5.930	0.000	0.000	0.086	
	2	5.850	0.000	0.000	0.083	3.6
Heptachlor	1	6.259	0.000	0.000	0.085	
	2	6.147	0.000	0.000	0.082	3.6
Heptachlor Epoxide	1	6.916	0.000	0.000	0.082	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B303383-BSD1

Date(s) Analyzed: 03/20/2022 03/20/2022

Instrument ID (1): ECD6

Instrument ID (2): ECD6

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
	2	6.779	0.000	0.000	0.081	1.2
Hexachlorobenzene	1	5.602	0.000	0.000	0.089	
	2	5.531	0.000	0.000	0.085	4.6
Methoxychlor	1	8.180	0.000	0.000	0.090	
	2	8.338	0.000	0.000	0.10	10.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B303434-BS1 Date(s) Analyzed: 03/19/2022 03/19/2022

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.18	
	2	0.000	-0.030	0.030	0.16	11.8
Aroclor-1260	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.17	11.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B303434-BSD1 Date(s) Analyzed: 03/19/2022 03/19/2022

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.16	6.1
Aroclor-1260	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.16	17.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS

Lab Sample ID: B303758-BS1 Date(s) Analyzed: 03/25/2022 03/25/2022

Instrument ID (1): ECD4 Instrument ID (2): ECD4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
2,4,5-T	1	16.758	0.000	0.000	10.6	
	2	16.479	0.000	0.000	10.4	5.6
2,4,5-TP (Silvex)	1	16.234	0.000	0.000	10.8	
	2	15.629	0.000	0.000	11.2	1.8
2,4-D	1	14.348	0.000	0.000	112	
	2	13.866	0.000	0.000	113	2.7
2,4-DB	1	17.253	0.000	0.000	105	
	2	17.067	0.000	0.000	105	4.7
Dalapon	1	4.917	0.000	0.000	195	
	2	4.419	0.000	0.000	183	8.9
Dicamba	1	12.174	0.000	0.000	10.7	
	2	11.632	0.000	0.000	10.6	3.7
Dichloroprop	1	13.829	0.000	0.000	110	
	2	13.181	0.000	0.000	114	3.6
MCPA	1	13.018	0.000	0.000	10500	
	2	12.482	0.000	0.000	9880	10.7
MCPP	1	12.677	0.000	0.000	10800	
	2	11.975	0.000	0.000	10300	6.6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS Dup

Lab Sample ID: B303758-BSD1 Date(s) Analyzed: 03/25/2022 03/25/2022

Instrument ID (1): ECD4 Instrument ID (2): ECD4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
2,4,5-T	1	16.757	0.000	0.000	10.2	
	2	16.480	0.000	0.000	10.2	2.0
2,4,5-TP (Silvex)	1	16.233	0.000	0.000	11.1	
	2	15.629	0.000	0.000	11.0	0.0
2,4-D	1	14.347	0.000	0.000	111	
	2	13.866	0.000	0.000	111	0.9
2,4-DB	1	17.252	0.000	0.000	108	
	2	17.067	0.000	0.000	107	2.8
Dalapon	1	4.918	0.000	0.000	189	
	2	4.420	0.000	0.000	177	7.1
Dicamba	1	12.174	0.000	0.000	10.3	
	2	11.632	0.000	0.000	10.4	3.9
Dichloroprop	1	13.828	0.000	0.000	109	
	2	13.180	0.000	0.000	112	1.8
MCPA	1	13.018	0.000	0.000	10300	
	2	12.480	0.000	0.000	9700	3.1
MCPP	1	12.676	0.000	0.000	10800	
	2	11.974	0.000	0.000	10100	8.5

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-03	Elevated reporting limit due to matrix interference.
H-03	Sample received after recommended holding time was exceeded.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
O-32	A dilution was performed as part of the standard analytical procedure.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 1030 in Soil	
Ignitability	NY,NH,CT,NC,ME,VA
SW-846 6010D in Soil	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8081B in Soil	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Soil	
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8081B in Water	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Water	
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA
SW-846 8151A in Soil	
2,4-D	NY,ME,NC,NH,VA,CT
2,4-D [2C]	NY,ME,NC,NH,VA,CT
2,4-DB	NY,ME,NC,NH,VA,CT
2,4-DB [2C]	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex)	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex) [2C]	NY,ME,NC,NH,VA,CT
2,4,5-T	NY,ME,NC,NH,VA,CT
2,4,5-T [2C]	NY,ME,NC,NH,VA,CT
Dalapon	NY,ME,NC,NH,VA,CT
Dalapon [2C]	NY,ME,NC,NH,VA,CT
Dicamba	NY,ME,NC,NH,VA,CT
Dicamba [2C]	NY,ME,NC,NH,VA,CT
Dichloroprop	NY,ME,NC,NH,VA,CT
Dichloroprop [2C]	NY,ME,NC,NH,VA,CT
MCPA	NY,ME,NC,NH,VA,CT
MCPA [2C]	NY,ME,NC,NH,VA,CT
MCPP	NY,ME,NC,NH,VA,CT
MCPP [2C]	NY,ME,NC,NH,VA,CT
SW-846 8151A in Water	
2,4-D	ME,NC,NH,CT,NY,VA
2,4-D [2C]	ME,NC,NH,CT,NY,VA
2,4-DB	ME,NC,NH,CT,NY,VA
2,4-DB [2C]	ME,NC,NH,CT,NY,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8151A in Water	
2,4,5-TP (Silvex)	ME,NC,NH,CT,NY,VA
2,4,5-TP (Silvex) [2C]	ME,NC,NH,CT,NY,VA
2,4,5-T	ME,NC,NH,CT,NY,VA
2,4,5-T [2C]	ME,NC,NH,CT,NY,VA
Dalapon	ME,NC,NH,CT,NY,VA
Dalapon [2C]	ME,NC,NH,CT,NY,VA
Dicamba	ME,NC,NH,CT,NY,VA
Dicamba [2C]	ME,NC,NH,CT,NY,VA
Dichloroprop	ME,NC,NH,CT,NY,VA
Dichloroprop [2C]	ME,NC,NH,CT,NY,VA
MCPA	NC,CT
MCPA [2C]	NC,CT
MCPP	NC,CT
MCPP [2C]	NC,CT
SW-846 8260D in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
1,2-Dibromoethane (EDB)	NY
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260D in Soil	
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
1,4-Dioxane	NY
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NH,NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NY
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
SW-846 8270E in Soil	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270E in Soil	
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine/Azobenzene	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270E in Water	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY
Aniline	CT,NY
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	CT,NY,NH
1,3-Dichlorobenzene	CT,NY,NH
1,4-Dichlorobenzene	CT,NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine/Azobenzene	NY
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270E in Water	
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2024
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2023
RI	Rhode Island Department of Health	LAO00373	12/30/2022
NC	North Carolina Div. of Water Quality	652	12/31/2022
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2022
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2022

CHAIN OF CUSTODY

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22C1091

ALPHA ANALYTICAL — Worldwide Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: TRC Environmental Corp
Address: 2 Liberty Square
Boston, MA 02109
Phone: 617-476-1303
Fax:
Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: MBTA GLX Disposal Sampling
Project Location: Somerville, MA
Project #: 310142.0032.0000 Phase 3 Task4
Project Manager: Ryan Niles
ALPHA Quote #: 7623R1

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:
MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, lvolk@"".com, ~~lnakolan@"".com~~, *hbarresi@trccompanies.com
bayres@"".com
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first.
Sub lab must provide MCP forms/ narrative as well as TRC's EQUIS EDD format for the metals data

Date Rec'd in Lab: ~~ETD~~ 3/11/22

ALPHA Job #: L2212949

Report Information ☐ FAX ☒ ADEx
Data Deliverables ☒ EMAIL ☐ Add'l Deliverables
Billing Information ☒ Same as Client info PO #: 165723

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1: <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides	TOTAL # BOTTLES
12949-01	WashPumpGas03122-DC-Comp	3/11/22	1050	Soil	GY	☐	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐
-02	WashPumpGas03122-DG-Vol(1)	3/11/22	1043	Soil	GY	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Container Type						V	V	A	A	A	A	A	A	A	A	A	A
Preservative						F	G	A	A	A	A	A	A	A	A	A	A

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT VIA MCP *or* CT RCP?

FORM NO: 01-01(I) (5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
Client	3/11 1400	Rob Manto AM	3/11/22 1400
Rob Manto	3/11/22 1850		3/11/22 1845
	3/16/22		3/16/22 13:01
M Rodan AAL	3/16/22 14:26		3/14/22 1424

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

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CHAIN OF CUSTODY

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ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #:

Report Information — Data Deliverables

- ☐ FAX
- ☒ EMAIL
- ☒ ADEx
- ☐ Add'l Deliverables

Billing Information

- ☒ Same as Client info
- PO #: 169853

Project Information

Project Name: MBTA GLX Disposal Sampling

Project Location: Somerville, MA

Project #: 310142.0032.0000 Phase 3 Task4

Project Manager: Ryan Niles

ALPHA Quote #: 7623R1

Client Information

Client:
TRC Environmental Corp

Address: 2 Liberty Square
Boston, MA 02109

Phone: 617-476-1303

Fax:

Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1; <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, lvolk@"".com, lnakolan@"".com, hbarnes@"".com
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides		
	GLC-WASHPUMPGAS030222-DC-COMP	3/11/22	1050	soil	GY	☐	☐	☒	☒	☒	☒	☒	☐	☒	☒	☒	☐	
	GLC-WASHPUMPGAS030222-DC-VOC(1)	3/11/22	1043	soil	GY	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Container Type						V	V	A	A	A	A	A	A	A	A	A	A	
Preservative						F	G	A	A	A	A	A	A	A	A	A	A	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

FORM NO. 01-01(I)
(rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

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I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client Alpha/TRC

Received By DK Date 3/16/22 Time 1426

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____

Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 5 Actual Temp - 3.8

By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Project T Analysis T ID's T Sampler Name T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? F Who was notified? _____

Are there Short Holds? F Who was notified? _____

Is there enough Volume? T

Is there Headspace where applicable? T MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? NA Acid _____ Base _____

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	1
Meoh-	1	250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-	2	Other Glass		Other Plastic	1	Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen: 3/16/22 @ 1420	3/16/22
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test, a Pace Analytical Laboratory	Project #: 22C1091
Project Location: Somerville, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

22C1091-01 thru 22C1091-02

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH (GC/PID/FID) CAM IV A ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP VPH (GC/MS) CAM IV C ( )	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	MassDEP EPH CAM IV B ( )	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

<u>Data User Note:</u> Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Technical Representative

Printed Name: Lisa A. Worthington Date: 03/29/22

APPENDIX B

MARCH 2022

CONTAINED-IN DETERMINATION

(Transaction #1344804)

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

March 3, 2022

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Soil containing hazardous wastes from RTN 3-34742 were generated to facilitate construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station. RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The soil contained the listed hazardous waste(s) with waste codes: U210 and U228, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results mg/kg	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
Washpump20210805ru	GLC-WASHPUMP20210805RU-VOC (5)	1/12/2022	Tetrachloroethene (127-18-4)	0.0035	1 mg/kg	10 mg/kg	30 mg/kg
			Trichloroethene (79-01-6)	0.00065	0.3 mg/kg	0.3 mg/kg	30 mg/kg

Tetrachloroethene (PCE) – Analytical results equal 0.0035 mg/kg (below S-1 standards).

Trichloroethene (TCE) – Analytical results equal 0.00065 mg/kg (below S-1 standards).

The sample included in **Table 1-1** is included in this proposed contained-in determination.

Sample GLC-WASHPUMP20210805RU-VOC (5) was collected from a soil stockpile generated during site grading at the Washington Street Pump Station. A field geologist screened the soil from eight discreet locations with a photoionization detector (PID) during sampling for the presence of total volatile organic compounds (TVOCs). The corresponding volatile organic compound (VOC) sample was collected from the discrete location exhibiting the highest TVOC reading. The sampled stockpile is covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for the stockpile is also tracked using a geographic information system (GIS) application created for the project. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil.

The sample included in this contained-in determination represents a volume of up to 120 cubic yards. Analytical data for the eligible sample is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The stockpile generation location is shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpile's staging location on site at the time of sampling is shown in **Figure 2**.

Soils from the Washington Street Pump Station have been included in several contained-in determinations submitted to MassDEP. In-situ samples were included in a contained-in determination that was submitted to MassDEP in December 2014 due to detectable PCE and TCE below Massachusetts Contingency Plan (MCP) S-1 standards; however, to meet current performance standards and to be consistent with on-going project soil management practices, additional contained-in determinations were prepared with updated characterization data to facilitate the disposal of soil. Soil generated from the Washington Street Pump Station were included in contained-in determinations that were submitted to MassDEP in September 2020, June 2021 (revised and resubmitted in July 2021), July 2021, November 2021, and January 2022

due to PCE and select TCE and 1,1,1-Trichloroethane (1,1,1-TCA) detections below MCP S-1 standards. The most recent Contained-In Determination is attached as **Appendix B**, which includes the other aforementioned Contained-In Determinations as attachments. The December 2014, September 2020, revised June 2021, July 2021, two November 2021, and two January 2022 contained-in determinations are also available on MassDEP's online database under transaction IDs 706656, 1221372, 1297119, 1297120, 1318479, 1320846, 1326493, and 1336446, respectively.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

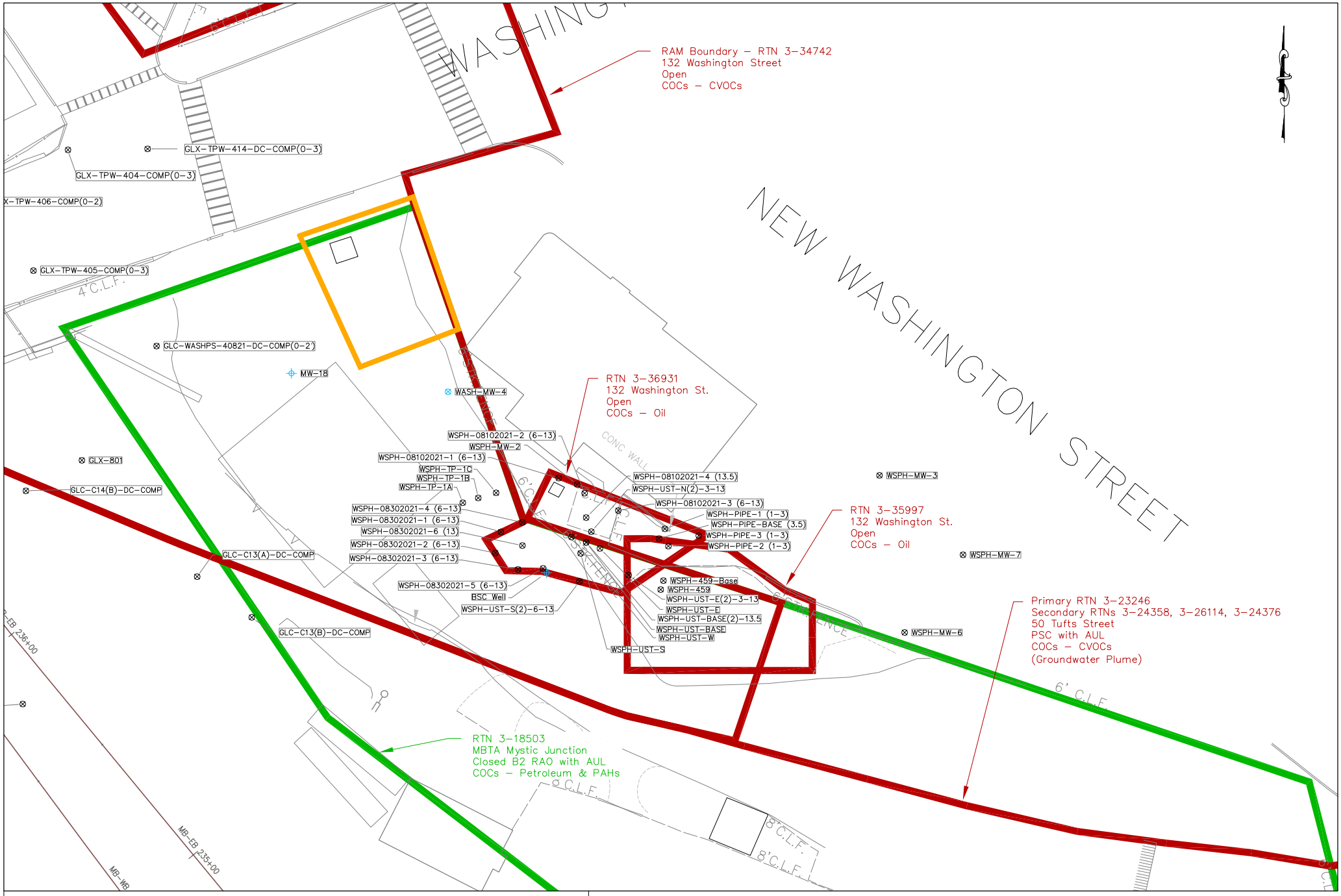
I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By: _____ 3/3/2022
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Figure 1 – Stockpile Generation Location
Figure 2 – Stockpile Staging Location
Table 1 – Summary of Soil Sample Analytical Results
Appendix A – Laboratory Report
Appendix B – January 2022 Contained-In

FIGURES

Figure 1 - Generation Location



GLXC MASTER CAD FILE – ALL
BORINGS/MONITORING WELLS 02/01/2022

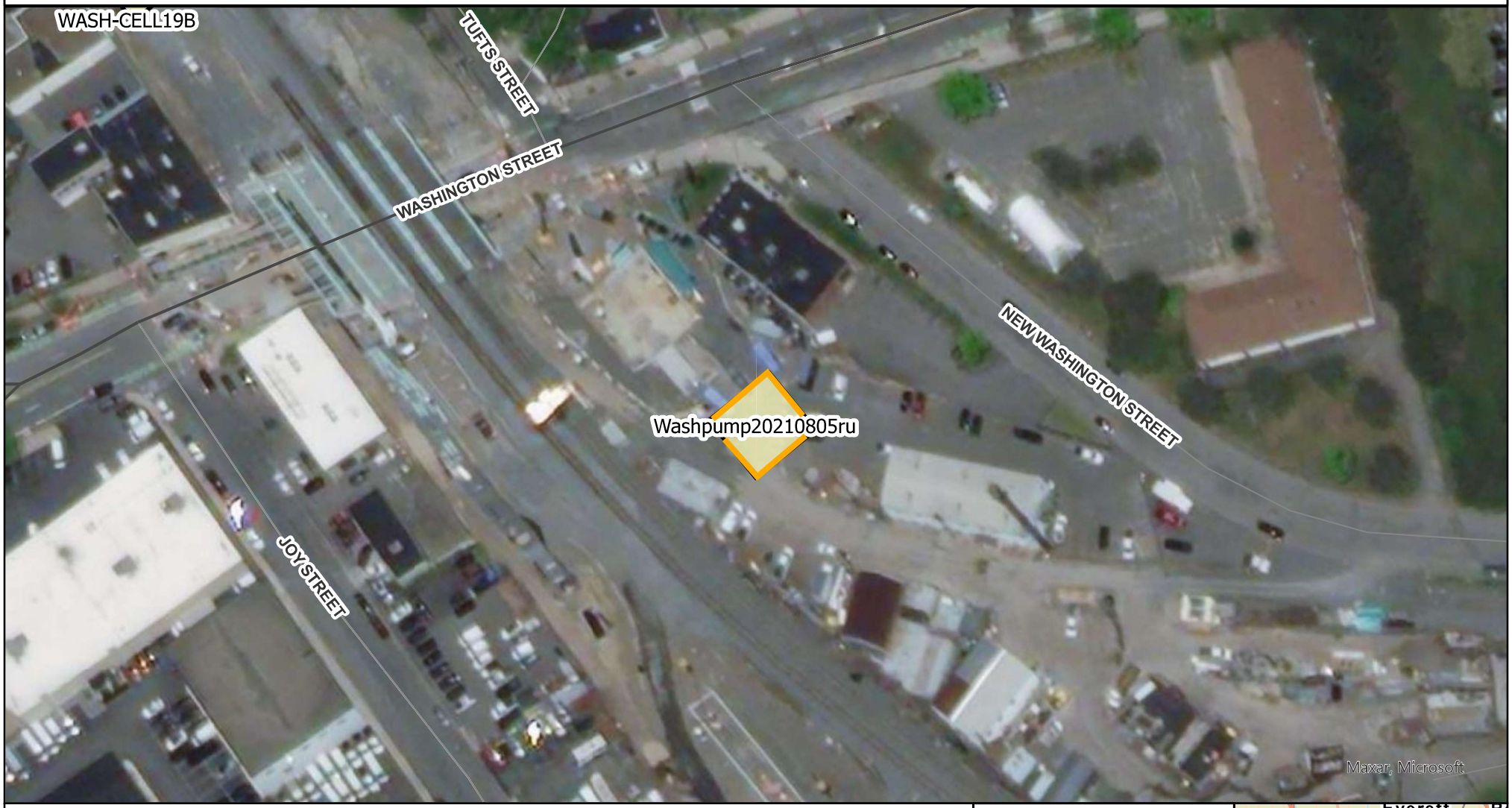
0 10 20 Feet

LEGEND

- BORING
- WELL
- RTN Closed with AUL
- RTN Closed
- RTN Open

Stockpile Generation Area

Figure 2: Stockpile Location



Legend

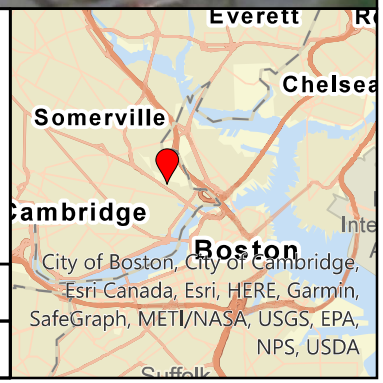
Stockpile relevant to Contained-In Determination

N

0 37.5 75 Feet

1 inch = 98 ft

DRAWN BY: JLD	CHECKED BY: LV
DATE: 02/04/22	



TABLES

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
January 12, 2022

						LOCATION	GLC-WASHPUMP20210805RU-VOC (5)	
						SAMPLING DATE	1/12/2022	
						LAB SAMPLE ID	L2201603-02	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0056	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0011	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0017	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0011	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0011	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.0011	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0011	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0035	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00056	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0045	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0011	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00056	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00056	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.0011	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00056	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00056	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00056	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0045	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00056	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00056	U
	Toluene	108-88-3	30	500	500	mg/kg	0.0011	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0011	U
	Chloromethane	74-87-3				mg/kg	0.0045	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0022	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.0011	U
	Chloroethane	75-00-3				mg/kg	0.0022	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0011	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0017	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00065	
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0022	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0022	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0022	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0022	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0022	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0011	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.0011	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0011	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.0011	U
	Dibromomethane	74-95-3				mg/kg	0.0022	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0022	U
	Styrene	100-42-5	3	4	70	mg/kg	0.0011	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.011	U
	Acetone	67-64-1	6	50	400	mg/kg	0.028	U
	Carbon disulfide	75-15-0				mg/kg	0.011	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.011	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.011	U
	2-Hexanone	591-78-6				mg/kg	0.011	U
	Bromochloromethane	74-97-5				mg/kg	0.0022	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0045	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0022	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.0011	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0022	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00056	U
	Bromobenzene	108-86-1				mg/kg	0.0022	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0022	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0022	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0022	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0033	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0045	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0045	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.0011	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0022	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0022	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0022	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0022	U
	Diethyl ether	60-29-7				mg/kg	0.0022	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0022	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0022	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0022	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.089	U
	Total VOCs					mg/kg	0.00415	

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A
LAB REPORTS

ANALYTICAL REPORT

Lab Number:	L2201603
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0032 P3 T4
Report Date:	01/20/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
~~L2201603-01~~	~~GLC-WASHPUMP20210805RU-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~01/12/22 08:00~~	~~01/12/22~~
L2201603-02	GLC-WASHPUMP20210805RU-VOC (5)	SOIL	SOMERVILLE, MA	01/12/22 08:00	01/12/22
~~L2201603-03~~	~~GLC-NP-313A-25-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~01/12/22 09:15~~	~~01/12/22~~
~~L2201603-04~~	~~GLC-NP-313A-25-DC-VOC (4)~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~01/12/22 09:15~~	~~01/12/22~~
~~L2201603-05~~	~~GLC-NP-318A-07-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~01/12/22 09:45~~	~~01/12/22~~
~~L2201603-06~~	~~GLC-NP-318A-07-DC-VOC (3)~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~01/12/22 09:45~~	~~01/12/22~~
~~L2201603-07~~	~~GLC-NP-307B-04-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~01/12/22 10:00~~	~~01/12/22~~
~~L2201603-08~~	~~GLC-NP-307B-04-DC-VOC (4)~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~01/12/22 10:00~~	~~01/12/22~~

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2201603
Project Number:	310142.0032 P3 T4	**Report Date:**	01/20/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2201603
Project Number:	310142.0032 P3 T4	**Report Date:**	01/20/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2201603
Project Number:	310142.0032 P3 T4	**Report Date:**	01/20/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2201603-02, -04, -06, and -08: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromochloromethane (0.0856), trichloroethene (0.1795), bromodichloromethane (0.2707), cis-1,3-dichloropropene (0.2447), 1,1,2-trichloroethane (0.1830)

L2201603-02, -04, -06, and -08: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L2201603-01, -03, -05, and -07: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

In reference to question H:

The WG1594094-2 LCS recovery, associated with L2201603-01, -03, -05, and -07, is below the individual acceptance criteria for aniline (39%), but within the overall method allowances. The results of the associated samples are reported; however, all results for this compound are considered to have a potentially low bias.

Pesticides

In reference to question H:

L2201603-05: The surrogate recovery is outside the individual acceptance criteria for decachlorobiphenyl (156%), but within the overall method allowances. The results of the original analysis are reported; however, all

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2201603
Project Number:	310142.0032 P3 T4	**Report Date:**	01/20/22

Case Narrative (continued)

associated compounds are considered to have a potential bias.

L2201603-07: The surrogate recovery is outside the individual acceptance criteria for decachlorobiphenyl (158%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

Total Metals

In reference to question H:

The WG1594108-3 LCSD recovery, associated with L2201603-01, -03, -05, and -07, is outside the acceptance criteria for mercury (54%). Re-analysis of the LCSD yielded an unacceptable recovery for mercury (53%). The LCS recovery is acceptable; therefore, no further action was taken.

Non-MCP Related Narratives

Solids, Total

L2201603-01, -03, -05, and -07: A Laboratory Duplicate was prepared with the sample batch; however, analysis of the native sample was cancelled; therefore, the QC result could not be reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 01/20/22

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Semivolatile Organics - Westborough Lab								
8270E	Batch QC	WG1594094-2	Aniline	LCS	39	40-140	01,03,05,07	potential low bias
MCP Organochlorine Pesticides - Westborough Lab								
8081B	GLC-NP-318A-07-DC-COMP	L2201603-05	Decachlorobiphenyl (B)	Surrogate	156	30-150	-	potential high bias
8081B	GLC-NP-307B-04-DC-COMP	L2201603-07	Decachlorobiphenyl (B)	Surrogate	158	30-150	-	potential high bias
MCP Total Metals - Mansfield Lab								
7471B	Batch QC	WG1594108-3	Mercury, Total	LCSD	54	60-140	01,03,05,07	potential low bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2201603

Project Number: 310142.0032 P3 T4 **Report Date:** 01/20/22

SAMPLE RESULTS

Lab ID: L2201603-02
Client ID: GLC-WASHPUMP20210805RU-VOC (5)
Sample Location: SOMERVILLE, MA

Date Collected: 01/12/22 08:00
Date Received: 01/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 01/13/22 16:27
Analyst: MV
Percent Solids: 68%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.6	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.7	--	1
Carbon tetrachloride	ND		ug/kg	1.1	--	1
1,2-Dichloropropane	ND		ug/kg	1.1	--	1
Dibromochloromethane	ND		ug/kg	1.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	--	1
Tetrachloroethene	3.5		ug/kg	0.56	--	1
Chlorobenzene	ND		ug/kg	0.56	--	1
Trichlorofluoromethane	ND		ug/kg	4.5	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.56	--	1
Bromodichloromethane	ND		ug/kg	0.56	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.56	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.56	--	1
1,1-Dichloropropene	ND		ug/kg	0.56	--	1
Bromoform	ND		ug/kg	4.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.56	--	1
Benzene	ND		ug/kg	0.56	--	1
Toluene	ND		ug/kg	1.1	--	1
Ethylbenzene	ND		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.5	--	1
Bromomethane	ND		ug/kg	2.2	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2201603

Project Number: 310142.0032 P3 T4 **Report Date:** 01/20/22

SAMPLE RESULTS

Lab ID: L2201603-02 Date Collected: 01/12/22 08:00

Client ID: GLC-WASHPUMP20210805RU-VOC (5) Date Received: 01/12/22

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	0.65		ug/kg	0.56	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	--	1
Methyl tert butyl ether	ND		ug/kg	2.2	--	1
p/m-Xylene	ND		ug/kg	2.2	--	1
o-Xylene	ND		ug/kg	1.1	--	1
Xylenes, Total	ND		ug/kg	1.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	--	1
Dibromomethane	ND		ug/kg	2.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	ND		ug/kg	28	--	1
Carbon disulfide	ND		ug/kg	11	--	1
Methyl ethyl ketone	ND		ug/kg	11	--	1
Methyl isobutyl ketone	ND		ug/kg	11	--	1
2-Hexanone	ND		ug/kg	11	--	1
Bromochloromethane	ND		ug/kg	2.2	--	1
Tetrahydrofuran	ND		ug/kg	4.5	--	1
2,2-Dichloropropane	ND		ug/kg	2.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.56	--	1
Bromobenzene	ND		ug/kg	2.2	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.2	--	1
o-Chlorotoluene	ND		ug/kg	2.2	--	1
p-Chlorotoluene	ND		ug/kg	2.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	--	1
Hexachlorobutadiene	ND		ug/kg	4.5	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	ND		ug/kg	1.1	--	1
Naphthalene	ND		ug/kg	4.5	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2201603

Project Number: 310142.0032 P3 T4 **Report Date:** 01/20/22

SAMPLE RESULTS

Lab ID: L2201603-02 Date Collected: 01/12/22 08:00

Client ID: GLC-WASHPUMP20210805RU-VOC (5) Date Received: 01/12/22

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	--	1
Diethyl ether	ND		ug/kg	2.2	--	1
Diisopropyl Ether	ND		ug/kg	2.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.2	--	1
1,4-Dioxane	ND		ug/kg	89	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	107		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2201603

Project Number: 310142.0032 P3 T4 **Report Date:** 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 01/13/22 09:16
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04,06,08 Batch: WG1594083-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2201603

Project Number: 310142.0032 P3 T4 **Report Date:** 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 01/13/22 09:16
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04,06,08 Batch: WG1594083-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2201603

Project Number: 310142.0032 P3 T4 **Report Date:** 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 01/13/22 09:16
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04,06,08 Batch: WG1594083-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	108		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,04,06,08 Batch: WG1594083-3 WG1594083-4								
Methylene chloride	88		87		70-130	1		20
1,1-Dichloroethane	100		103		70-130	3		20
Chloroform	99		104		70-130	5		20
Carbon tetrachloride	116		125		70-130	7		20
1,2-Dichloropropane	98		97		70-130	1		20
Dibromochloromethane	107		108		70-130	1		20
1,1,2-Trichloroethane	97		97		70-130	0		20
Tetrachloroethene	126		130		70-130	3		20
Chlorobenzene	100		102		70-130	2		20
Trichlorofluoromethane	114		123		70-130	8		20
1,2-Dichloroethane	100		101		70-130	1		20
1,1,1-Trichloroethane	112		120		70-130	7		20
Bromodichloromethane	103		104		70-130	1		20
trans-1,3-Dichloropropene	104		103		70-130	1		20
cis-1,3-Dichloropropene	107		114		70-130	6		20
1,1-Dichloropropene	112		117		70-130	4		20
Bromoform	105		105		70-130	0		20
1,1,2,2-Tetrachloroethane	88		83		70-130	6		20
Benzene	100		105		70-130	5		20
Toluene	100		99		70-130	1		20
Ethylbenzene	102		105		70-130	3		20
Chloromethane	89		92		70-130	3		20
Bromomethane	102		102		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,04,06,08 Batch: WG1594083-3 WG1594083-4								
Vinyl chloride	102		107		70-130	5		20
Chloroethane	111		117		70-130	5		20
1,1-Dichloroethene	106		108		70-130	2		20
trans-1,2-Dichloroethene	103		110		70-130	7		20
Trichloroethene	108		111		70-130	3		20
1,2-Dichlorobenzene	99		100		70-130	1		20
1,3-Dichlorobenzene	104		105		70-130	1		20
1,4-Dichlorobenzene	100		101		70-130	1		20
Methyl tert butyl ether	101		105		70-130	4		20
p/m-Xylene	110		112		70-130	2		20
o-Xylene	110		112		70-130	2		20
cis-1,2-Dichloroethene	100		105		70-130	5		20
Dibromomethane	102		101		70-130	1		20
1,2,3-Trichloropropane	88		82		70-130	7		20
Styrene	112		113		70-130	1		20
Dichlorodifluoromethane	75		80		70-130	6		20
Acetone	104		100		70-130	4		20
Carbon disulfide	93		93		70-130	0		20
Methyl ethyl ketone	115		106		70-130	8		20
Methyl isobutyl ketone	90		91		70-130	1		20
2-Hexanone	94		96		70-130	2		20
Bromochloromethane	109		112		70-130	3		20
Tetrahydrofuran	101		102		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,04,06,08 Batch: WG1594083-3 WG1594083-4								
2,2-Dichloropropane	111		117		70-130	5		20
1,2-Dibromoethane	96		95		70-130	1		20
1,3-Dichloropropane	97		97		70-130	0		20
1,1,1,2-Tetrachloroethane	108		110		70-130	2		20
Bromobenzene	100		101		70-130	1		20
n-Butylbenzene	108		106		70-130	2		20
sec-Butylbenzene	105		105		70-130	0		20
tert-Butylbenzene	105		106		70-130	1		20
o-Chlorotoluene	98		96		70-130	2		20
p-Chlorotoluene	98		95		70-130	3		20
1,2-Dibromo-3-chloropropane	88		89		70-130	1		20
Hexachlorobutadiene	120		120		70-130	0		20
Isopropylbenzene	101		103		70-130	2		20
p-Isopropyltoluene	110		113		70-130	3		20
Naphthalene	98		98		70-130	0		20
n-Propylbenzene	100		99		70-130	1		20
1,2,3-Trichlorobenzene	107		109		70-130	2		20
1,2,4-Trichlorobenzene	110		111		70-130	1		20
1,3,5-Trimethylbenzene	104		104		70-130	0		20
1,2,4-Trimethylbenzene	104		104		70-130	0		20
Diethyl ether	100		97		70-130	3		20
Diisopropyl Ether	102		109		70-130	7		20
Ethyl-Tert-Butyl-Ether	105		111		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,04,06,08 Batch: WG1594083-3 WG1594083-4								
Tertiary-Amyl Methyl Ether	103		106		70-130	3		20
1,4-Dioxane	118		103		70-130	14		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		103		70-130
Toluene-d8	101		98		70-130
4-Bromofluorobenzene	95		93		70-130
Dibromofluoromethane	105		108		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2201603
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 01/15/22 00:23
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 01/14/22 12:10

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03,05,07 Batch: WG1594094-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2201603
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 01/15/22 00:23
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 01/14/22 12:10

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03,05,07 Batch: WG1594094-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2201603
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 01/15/22 00:23
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 01/14/22 12:10

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03,05,07 Batch: WG1594094-1					
Biphenyl[1]	ND		ug/kg	32	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		30-130
Phenol-d6	65		30-130
Nitrobenzene-d5	71		30-130
2-Fluorobiphenyl	61		30-130
2,4,6-Tribromophenol	72		30-130
4-Terphenyl-d14	67		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1594094-2 WG1594094-3								
Acenaphthene	62		60		40-140	3		30
1,2,4-Trichlorobenzene	58		59		40-140	2		30
Hexachlorobenzene	66		67		40-140	2		30
Bis(2-chloroethyl)ether	59		59		40-140	0		30
2-Chloronaphthalene	64		63		40-140	2		30
1,2-Dichlorobenzene	56		57		40-140	2		30
1,3-Dichlorobenzene	55		56		40-140	2		30
1,4-Dichlorobenzene	55		56		40-140	2		30
3,3'-Dichlorobenzidine	49		50		40-140	2		30
2,4-Dinitrotoluene	72		71		40-140	1		30
2,6-Dinitrotoluene	74		72		40-140	3		30
Azobenzene	64		63		40-140	2		30
Fluoranthene	64		63		40-140	2		30
4-Bromophenyl phenyl ether	66		65		40-140	2		30
Bis(2-chloroisopropyl)ether	61		61		40-140	0		30
Bis(2-chloroethoxy)methane	63		64		40-140	2		30
Hexachlorobutadiene	62		60		40-140	3		30
Hexachloroethane	60		60		40-140	0		30
Isophorone	65		66		40-140	2		30
Naphthalene	60		59		40-140	2		30
Nitrobenzene	70		72		40-140	3		30
Bis(2-ethylhexyl)phthalate	66		64		40-140	3		30
Butyl benzyl phthalate	64		64		40-140	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1594094-2 WG1594094-3								
Di-n-butylphthalate	69		68		40-140	1		30
Di-n-octylphthalate	68		66		40-140	3		30
Diethyl phthalate	65		65		40-140	0		30
Dimethyl phthalate	68		67		40-140	1		30
Benzo(a)anthracene	62		62		40-140	0		30
Benzo(a)pyrene	60		60		40-140	0		30
Benzo(b)fluoranthene	65		66		40-140	2		30
Benzo(k)fluoranthene	66		62		40-140	6		30
Chrysene	62		61		40-140	2		30
Acenaphthylene	63		62		40-140	2		30
Anthracene	62		62		40-140	0		30
Benzo(ghi)perylene	64		63		40-140	2		30
Fluorene	64		63		40-140	2		30
Phenanthrene	60		60		40-140	0		30
Dibenzo(a,h)anthracene	67		66		40-140	2		30
Indeno(1,2,3-cd)pyrene	66		66		40-140	0		30
Pyrene	61		61		40-140	0		30
Aniline	**39**	Q	40		40-140	3		30
4-Chloroaniline	42		42		40-140	0		30
Dibenzofuran	61		60		40-140	2		30
2-Methylnaphthalene	64		62		40-140	3		30
Acetophenone	66		68		40-140	3		30
2,4,6-Trichlorophenol	72		70		30-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1594094-2 WG1594094-3								
2-Chlorophenol	62		64		30-130	3		30
2,4-Dichlorophenol	68		71		30-130	4		30
2,4-Dimethylphenol	64		65		30-130	2		30
2-Nitrophenol	80		83		30-130	4		30
4-Nitrophenol	72		78		30-130	8		30
2,4-Dinitrophenol	32		30		30-130	6		30
Pentachlorophenol	56		57		30-130	2		30
Phenol	64		64		30-130	0		30
2-Methylphenol	63		65		30-130	3		30
3-Methylphenol/4-Methylphenol	66		68		30-130	3		30
2,4,5-Trichlorophenol	72		72		30-130	0		30
Pyridine	49		50		30-130	2		30
Biphenyl[1]	70		68		40-140	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	61		64		30-130
Phenol-d6	66		69		30-130
Nitrobenzene-d5	72		75		30-130
2-Fluorobiphenyl	63		62		30-130
2,4,6-Tribromophenol	79		78		30-130
4-Terphenyl-d14	65		65		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 01/15/22 11:22
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 01/14/22 09:46

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01,03,05,07 Batch: WG1594029-1					
TPH (C10-C36)	ND		ug/kg	31400	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	82		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2201603

Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1594029-2								
TPH (C10-C36)	105		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	80				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2201603
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 01/17/22 14:47
Analyst: CW

Extraction Method: EPA 3540C
Extraction Date: 01/15/22 02:00
Cleanup Method: EPA 3665A
Cleanup Date: 01/15/22
Cleanup Method: EPA 3660B
Cleanup Date: 01/16/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01,03,05,07 Batch: WG1594259-1						
Aroclor 1016	ND		ug/kg	32.0	--	A
Aroclor 1221	ND		ug/kg	32.0	--	A
Aroclor 1232	ND		ug/kg	32.0	--	A
Aroclor 1242	ND		ug/kg	32.0	--	A
Aroclor 1248	ND		ug/kg	32.0	--	A
Aroclor 1254	ND		ug/kg	32.0	--	A
Aroclor 1260	ND		ug/kg	32.0	--	A
Aroclor 1262	ND		ug/kg	32.0	--	A
Aroclor 1268	ND		ug/kg	32.0	--	A
PCBs, Total	ND		ug/kg	32.0	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	61		30-150	B
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	58		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1594259-2 WG1594259-3									
Aroclor 1016	68		65		40-140	5		30	A
Aroclor 1260	64		59		40-140	8		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		68		30-150	B
Decachlorobiphenyl	63		59		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		61		30-150	A
Decachlorobiphenyl	61		56		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2201603
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 01/15/22 17:04
Analyst: EJL

Extraction Method: EPA 3546
Extraction Date: 01/15/22 04:11
Cleanup Method: EPA 3620B
Cleanup Date: 01/15/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01,03,05,07 Batch: WG1594321-1						
Delta-BHC	ND		ug/kg	1.50	--	A
Lindane	ND		ug/kg	0.502	--	A
Alpha-BHC	ND		ug/kg	0.627	--	A
Beta-BHC	ND		ug/kg	1.50	--	A
Heptachlor	ND		ug/kg	0.753	--	A
Aldrin	ND		ug/kg	1.50	--	A
Heptachlor epoxide	ND		ug/kg	2.82	--	A
Endrin	ND		ug/kg	0.627	--	A
Endrin ketone	ND		ug/kg	1.50	--	A
Dieldrin	ND		ug/kg	0.941	--	A
4,4'-DDE	ND		ug/kg	1.50	--	A
4,4'-DDD	ND		ug/kg	1.50	--	A
4,4'-DDT	ND		ug/kg	2.82	--	A
Endosulfan I	ND		ug/kg	1.50	--	A
Endosulfan II	ND		ug/kg	1.50	--	A
Endosulfan sulfate	ND		ug/kg	0.627	--	A
Methoxychlor	ND		ug/kg	2.82	--	A
Chlordane	ND		ug/kg	12.5	--	A
Hexachlorobenzene	ND		ug/kg	1.50	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	94		30-150	A
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	102		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2201603
Report Date: 01/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 01/18/22 17:45
Analyst: AKM

Extraction Method: EPA 8151A
Extraction Date: 01/17/22 03:45

Methylation Date: 01/18/22 15:00

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 01,03,05,07 Batch: WG1594607-1						
MCPP	ND		ug/kg	3300	--	A
MCPA	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
Dichloroprop	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	84		30-150	A
DCAA	80		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2201603

Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1594321-2 WG1594321-3									
Delta-BHC	61		56		40-140	9		30	A
Lindane	81		76		40-140	6		30	A
Alpha-BHC	78		74		40-140	5		30	A
Beta-BHC	78		74		40-140	5		30	A
Heptachlor	86		80		40-140	7		30	A
Aldrin	78		72		40-140	8		30	A
Heptachlor epoxide	72		66		40-140	9		30	A
Endrin	80		73		40-140	9		30	A
Endrin ketone	86		76		40-140	12		30	A
Dieldrin	82		75		40-140	9		30	A
4,4'-DDE	73		67		40-140	9		30	A
4,4'-DDD	82		75		40-140	9		30	A
4,4'-DDT	84		77		40-140	9		30	A
Endosulfan I	73		67		40-140	9		30	A
Endosulfan II	81		73		40-140	10		30	A
Endosulfan sulfate	69		59		40-140	16		30	A
Methoxychlor	85		77		40-140	10		30	A
Hexachlorobenzene	74		71		40-140	4		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2201603

Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1594321-2 WG1594321-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		68		30-150	A
Decachlorobiphenyl	100		99		30-150	A
2,4,5,6-Tetrachloro-m-xylene	78		75		30-150	B
Decachlorobiphenyl	106		102		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1594607-2 WG1594607-3									
MCPP	94		96		40-140	2		30	A
MCPA	86		86		40-140	0		30	A
Dalapon	78		70		40-140	11		30	A
Dicamba	86		85		40-140	1		30	A
Dichloroprop	88		88		40-140	0		30	A
2,4-D	84		84		40-140	0		30	A
2,4-DB	67		68		40-140	1		30	A
2,4,5-T	82		85		40-140	4		30	A
2,4,5-TP (Silvex)	86		85		40-140	1		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	80		81		30-150	A
DCAA	82		82		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2201603

Project Number: 310142.0032 P3 T4 **Report Date:** 01/20/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03,05,07 Batch: WG1594105-1										
Antimony, Total	ND		mg/kg	2.00	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Arsenic, Total	ND		mg/kg	0.400	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Barium, Total	ND		mg/kg	0.400	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Beryllium, Total	ND		mg/kg	0.200	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Cadmium, Total	ND		mg/kg	0.400	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Chromium, Total	ND		mg/kg	0.400	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Lead, Total	ND		mg/kg	2.00	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Nickel, Total	ND		mg/kg	1.00	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Selenium, Total	ND		mg/kg	2.00	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Silver, Total	ND		mg/kg	0.400	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Thallium, Total	ND		mg/kg	2.00	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Vanadium, Total	ND		mg/kg	0.400	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL
Zinc, Total	ND		mg/kg	2.00	--	1	01/14/22 22:27	01/16/22 17:05	97,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03,05,07 Batch: WG1594108-1										
Mercury, Total	ND		mg/kg	0.083	--	1	01/14/22 22:50	01/18/22 09:26	97,7471B	AC

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2201603

Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07 Batch: WG1594105-2 WG1594105-3 SRM Lot Number: D113-540								
Antimony, Total	133		140		20-250	5		30
Arsenic, Total	86		86		70-130	0		30
Barium, Total	78		78		75-125	0		30
Beryllium, Total	75		83		75-125	10		30
Cadmium, Total	77		78		75-125	1		30
Chromium, Total	78		82		70-130	5		30
Lead, Total	83		81		72-128	2		30
Nickel, Total	81		84		70-130	4		30
Selenium, Total	86		88		66-134	2		30
Silver, Total	83		82		70-131	1		30
Thallium, Total	76		75		70-130	1		30
Vanadium, Total	78		80		74-126	3		30
Zinc, Total	81		82		70-130	1		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07 Batch: WG1594108-2 WG1594108-3 SRM Lot Number: D113-540								
Mercury, Total	69		**54**	Q	60-140	24		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

SAMPLE RESULTS

Lab ID: L2201603-02
Client ID: GLC-WASHPUMP20210805RU-VOC (5)
Sample Location: SOMERVILLE, MA

Date Collected: 01/12/22 08:00
Date Received: 01/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	67.6		%	0.100	NA	1	-	01/13/22 07:39	121,2540G	RI

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2201603

Project Number: 310142.0032 P3 T4 **Report Date:** 01/20/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03,05,07 Batch: WG1595108-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	01/18/22 10:30	01/18/22 12:32	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01,03,05,07 Batch: WG1595870-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	01/19/22 18:40	01/19/22 22:03	125,7.3	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2201603

Report Date: 01/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1593417-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1593418-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1595108-2								
Cyanide, Reactive	59		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,03,05,07 Batch: WG1595870-2								
Sulfide, Reactive	76		-		60-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2201603

Report Date: 01/20/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,05,07 QC Batch ID: WG1593417-2 QC Sample: L2201603-01 Client ID: GLC-WASHPUMP20210805RU-COMP						
pH (H)	7.4	7.4	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01,03,05,07 QC Batch ID: WG1593418-2 QC Sample: L2201603-01 Client ID: GLC-WASHPUMP20210805RU-COMP						
Specific Conductance @ 25 C	86	77	umhos/cm	11		20
General Chemistry - Westborough Lab Associated sample(s): 02,04,06,08 QC Batch ID: WG1593466-1 QC Sample: L2201603-02 Client ID: GLC-WASHPUMP20210805RU-VOC (5)						
Solids, Total	67.6	69.3	%	2		20

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2201603-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2201603-01B	Glass 250ml/8oz unpreserved	A	NA		2.7	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2201603-02A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2201603-02B	Vial water preserved	A	NA		2.7	Y	Absent	12-JAN-22 20:33	MCP-8260HLW-21(14)
L2201603-02C	Vial water preserved	A	NA		2.7	Y	Absent	12-JAN-22 20:33	MCP-8260HLW-21(14)
L2201603-02D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2201603-03A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2201603-03B	Glass 250ml/8oz unpreserved	A	NA		2.7	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8081-10(14),MCP-8151-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2201603-04A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2201603-04B	Vial water preserved	A	NA		2.7	Y	Absent	12-JAN-22 20:33	MCP-8260HLW-21(14)
L2201603-04C	Vial water preserved	A	NA		2.7	Y	Absent	12-JAN-22 20:33	MCP-8260HLW-21(14)
L2201603-04D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2201603
Report Date: 01/20/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2201603-05A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2201603-05B	Glass 250ml/8oz unpreserved	A	NA		2.7	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2201603-06A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2201603-06B	Vial water preserved	A	NA		2.7	Y	Absent	12-JAN-22 20:33	MCP-8260HLW-21(14)
L2201603-06C	Vial water preserved	A	NA		2.7	Y	Absent	12-JAN-22 20:33	MCP-8260HLW-21(14)
L2201603-06D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2201603-07A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2201603-07B	Glass 250ml/8oz unpreserved	A	NA		2.7	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2201603-08A	Vial MeOH preserved	A	NA		2.7	Y	Absent		MCP-8260HLW-21(14)
L2201603-08B	Vial water preserved	A	NA		2.7	Y	Absent	12-JAN-22 20:33	MCP-8260HLW-21(14)
L2201603-08C	Vial water preserved	A	NA		2.7	Y	Absent	12-JAN-22 20:33	MCP-8260HLW-21(14)
L2201603-08D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2201603
Project Number:	310142.0032 P3 T4	**Report Date:**	01/20/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2201603
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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2201603
Project Number:	310142.0032 P3 T4	**Report Date:**	01/20/22

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/12/22

ALPHA Job #: L2201603

Client Information

Client: TRC Environmental Corp
Address: 2 Liberty Square
Boston, MA 02109
Phone: 617-476-1303
Fax:
Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: MBTA GLX Disposal Sampling
Project Location: Somerville, MA
Project #: 310142.0032.0000 Phase 3 Task4
Project Manager: Ryan Niles
ALPHA Quote #: 7623R1

Turn-Around Time

☒ Standard ☒ Rush (ONLY IF PRE-APPROVED)

Due Date: Time: 5 Day TAT

Report Information – Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client Info PO #: 165723

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1: <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, lvolk@"".com, lnakolan@"".com, bayres@"".com
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides	
01603-01	GLC-WashPump20210805RV-Comp	11/12/22	0800	Soil	JF	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
02	GLC-WashPump20210805RV-VOC (5)		0800			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
03	GLC-NP-313A-25-DC-Comp		0915			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
04	GLC-NP-313A-25-DC-VOC (4)		0915			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
05	GLC-NP-318A-07-DC-Comp		0945			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
06	GLC-NP-318A-07-DC-VOC (3)		0945			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
07	GLC-NP-307B-04-DC-Comp		1000			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
08	GLC-NP-307B-04-DC-VOC (4)		1000			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Container Type						V	V	A	A	A	A	A	A	A	A	A	A
Preservative						F	G	A	A	A	A	A	A	A	A	A	A

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
	11/12/22	Plum ALC	11/12/22 1115
	11/12/22 1738		11/12/22 1738

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2201603
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4
Lab Sample ID	: WG1594083-5	**Lab File ID**	: V11220113A05
Instrument ID	: VOA111		
Matrix	: SOIL	**Analysis Date**	: 01/13/22 09:16

Client Sample No.	Lab Sample ID	Analysis Date
WG1594083-3LCS	WG1594083-3	01/13/22 07:34
WG1594083-4LCSD	WG1594083-4	01/13/22 07:59
GLC-WASHPUMP20210805RU-VOC (5)	L2201603-02	01/13/22 16:27
GLC-NP-313A-25-DC-VOC (4)	L2201603-04	01/13/22 16:53
GLC-NP-318A-07-DC-VOC (3)	L2201603-06	01/13/22 17:18
GLC-NP-307B-04-DC-VOC (4)	L2201603-08	01/13/22 17:44

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2201603		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4		
Instrument ID	: VOA111	**Calibration Date**	: 01/13/22 07:34		
Lab File ID	: V11220113A01	**Init. Calib. Date(s)**	: 12/14/21	12/14/21	
Sample No	: WG1594083-2	**Init. Calib. Times**	: 06:32	09:57	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	89	0
Dichlorodifluoromethane	0.246	0.184	-	25.2*	20	62	0
Chloromethane	0.414	0.368	-	11.1	20	80	0
Vinyl chloride	0.264	0.268	-	-1.5	20	89	0
Bromomethane	0.152	0.155	-	-2	20	98	0
Chloroethane	0.139	0.155	-	-11.5	20	95	0
Trichlorofluoromethane	0.318	0.363	-	-14.2	20	97	0
Ethyl ether	0.13	0.129	-	0.8	20	87	0
1,1-Dichloroethene	0.18	0.19	-	-5.6	20	92	0
Carbon disulfide	0.645	0.603	-	6.5	20	85	0
Freon-113	0.172	0.203	-	-18	20	97	0
Acrolein	0.032	0.033	-	-3.1	20	90	0
Methylene chloride	0.262	0.232	-	11.5	20	85	0
Acetone	0.082	0.086	-	-4.9	20	104	0
trans-1,2-Dichloroethene	0.211	0.218	-	-3.3	20	91	0
Methyl acetate	0.185	0.189	-	-2.2	20	87	0
Methyl tert-butyl ether	0.626	0.632	-	-1	20	87	0
tert-Butyl alcohol	0.024	0.026	-	-8.3	20	88	0
Diisopropyl ether	1.038	1.059	-	-2	20	88	0
1,1-Dichloroethane	0.476	0.476	-	0	20	89	0
Halothane	0.148	0.168	-	-13.5	20	101	-.01
Acrylonitrile	0.084	0.09	-	-7.1	20	87	0
Ethyl tert-butyl ether	0.817	0.857	-	-4.9	20	89	0
Vinyl acetate	0.62	0.693	-	-11.8	20	90	0
cis-1,2-Dichloroethene	0.24	0.241	-	-0.4	20	88	0
2,2-Dichloropropane	0.335	0.371	-	-10.7	20	98	0
Bromochloromethane	0.102	0.112	-	-9.8	20	93	0
Cyclohexane	0.391	0.454	-	-16.1	20	94	0
Chloroform	0.432	0.429	-	0.7	20	90	0
Ethyl acetate	0.26	0.266	-	-2.3	20	85	0
Carbon tetrachloride	0.301	0.349	-	-15.9	20	98	0
Tetrahydrofuran	0.096	0.097	-	-1	20	84	0
Dibromofluoromethane	0.252	0.265	-	-5.2	20	95	0
1,1,1-Trichloroethane	0.345	0.388	-	-12.5	20	97	0
2-Butanone	0.113	0.13	-	-15	20	97	-.01
1,1-Dichloropropene	0.272	0.305	-	-12.1	20	93	0
Benzene	0.883	0.883	-	0	20	88	0
tert-Amyl methyl ether	0.603	0.619	-	-2.7	20	87	0
1,2-Dichloroethane-d4	0.293	0.295	-	-0.7	20	92	0
1,2-Dichloroethane	0.351	0.351	-	0	20	88	0
Methyl cyclohexane	0.314	0.358	-	-14	20	94	0
Trichloroethene	0.218	0.236	-	-8.3	20	92	0
Dibromomethane	0.133	0.135	-	-1.5	20	86	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2201603		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4		
Instrument ID	: VOA111	**Calibration Date**	: 01/13/22 07:34		
Lab File ID	: V11220113A01	**Init. Calib. Date(s)**	: 12/14/21	12/14/21	
Sample No	: WG1594083-2	**Init. Calib. Times**	: 06:32	09:57	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.262	0.257	-	1.9	20	85	0
2-Chloroethyl vinyl ether	0.124	0.106	-	14.5	20	81	0
Bromodichloromethane	0.326	0.337	-	-3.4	20	88	0
1,4-Dioxane	2000	2352.782	-	-17.6	20	108	0
cis-1,3-Dichloropropene	0.353	0.378	-	-7.1	20	87	0
Chlorobenzene-d5	1	1	-	0	20	90	0
Toluene-d8	1.345	1.356	-	-0.8	20	91	0
Toluene	0.748	0.746	-	0.3	20	90	0
4-Methyl-2-pentanone	0.122	0.11	-	9.8	20	83	0
Tetrachloroethene	0.283	0.355	-	-25.4*	20	104	0
trans-1,3-Dichloropropene	0.45	0.468	-	-4	20	87	0
Ethyl methacrylate	0.388	0.356	-	8.2	20	83	0
1,1,2-Trichloroethane	0.22	0.213	-	3.2	20	84	0
Chlorodibromomethane	0.311	0.333	-	-7.1	20	90	0
1,3-Dichloropropane	0.456	0.441	-	3.3	20	85	0
1,2-Dibromoethane	40	38.291	-	4.3	20	87	0
2-Hexanone	0.237	0.224	-	5.5	20	82	0
Chlorobenzene	0.835	0.837	-	-0.2	20	91	0
Ethylbenzene	1.432	1.467	-	-2.4	20	91	0
1,1,1,2-Tetrachloroethane	0.311	0.338	-	-8.7	20	95	0
p/m Xylene	0.504	0.556	-	-10.3	20	93	0
o Xylene	0.488	0.538	-	-10.2	20	92	0
Styrene	0.823	0.923	-	-12.2	20	90	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	96	0
Bromoform	0.38	0.4	-	-5.3	20	96	0
Isopropylbenzene	2.513	2.54	-	-1.1	20	93	0
4-Bromofluorobenzene	0.93	0.88	-	5.4	20	93	0
Bromobenzene	0.678	0.681	-	-0.4	20	96	0
n-Propylbenzene	3.081	3.091	-	-0.3	20	93	0
1,4-Dichlorobutane	1.18	1.071	-	9.2	20	86	0
1,1,2,2-Tetrachloroethane	0.627	0.554	-	11.6	20	83	0
4-Ethyltoluene	2.459	2.614	-	-6.3	20	97	0
2-Chlorotoluene	2.243	2.187	-	2.5	20	93	0
1,3,5-Trimethylbenzene	2.147	2.234	-	-4.1	20	95	0
1,2,3-Trichloropropane	0.52	0.456	-	12.3	20	83	0
trans-1,4-Dichloro-2-buten	0.243	0.235	-	3.3	20	88	0
4-Chlorotoluene	2.03	1.98	-	2.5	20	92	0
tert-Butylbenzene	1.788	1.874	-	-4.8	20	97	0
1,2,4-Trimethylbenzene	2.145	2.232	-	-4.1	20	94	0
sec-Butylbenzene	2.703	2.851	-	-5.5	20	96	0
p-Isopropyltoluene	2.218	2.45	-	-10.5	20	98	0
1,3-Dichlorobenzene	1.275	1.321	-	-3.6	20	97	0
1,4-Dichlorobenzene	1.325	1.326	-	-0.1	20	97	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2201603	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032 P3 T4	
Instrument ID	: VOA111		**Calibration Date**	: 01/13/22 07:34	
Lab File ID	: V11220113A01		**Init. Calib. Date(s)**	: 12/14/21	12/14/21
Sample No	: WG1594083-2		**Init. Calib. Times**	: 06:32	09:57
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.277	1.457	-	-14.1	20	101	0
n-Butylbenzene	2.074	2.245	-	-8.2	20	97	0
1,2-Dichlorobenzene	1.228	1.215	-	1.1	20	94	0
1,2,4,5-Tetramethylbenzene	2.043	2.282	-	-11.7	20	97	0
1,2-Dibromo-3-chloropropan	40	35.155	-	12.1	20	89	0
1,3,5-Trichlorobenzene	0.906	1.059	-	-16.9	20	108	0
Hexachlorobutadiene	0.456	0.547	-	-20	20	113	0
1,2,4-Trichlorobenzene	0.795	0.879	-	-10.6	20	103	0
Naphthalene	1.597	1.564	-	2.1	20	88	0
1,2,3-Trichlorobenzene	0.704	0.751	-	-6.7	20	99	0

*** Value outside of QC limits.**

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2201603
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4
Instrument ID	: PEST10	**Analysis Date**	: 01/15/22 08:01
PEM Standard	: R1523632-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	2898710.35071	309263.12937
Endrin	217494018.80393	160257905.81569
4,4'-DDD	1616869.39062	1053985.00705
4,4'-DDT	395584309.36361	241327422.50472
Endrin Aldehyde	239954.4496	8279635.78579
Endrin Ketone	453913.11593	6868261.9904

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.318	8.64
DDT	1.13	0.562

APPENDIX B

JANUARY 2022

CONTAINED-IN DETERMINATION

Transaction #1336446

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

January 20, 2022

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Soil containing hazardous wastes from RTN 3-34742 were generated to facilitate construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station. RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The soil contained the listed hazardous waste(s) with waste codes: U210 and U228, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results mg/kg	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
WashPS-20211213	GLC-WASHPS20211213-DC-VOC-06	12/20/2021	Tetrachloroethene (127-18-4)	0.0089	1 mg/kg	10 mg/kg	30 mg/kg
			Trichloroethene (79-01-6)	0.0008	0.3 mg/kg	0.3 mg/kg	30 mg/kg

Tetrachloroethene (PCE) – Analytical results equal 0.0089 mg/kg (below S-1 standards).

Trichloroethene (TCE) – Analytical results equal 0.0008 mg/kg (below S-1 standards).

The sample included in **Table 1-1** is included in this proposed contained-in determination.

Sample GLC-WASHPS20211213-DC-VOC-06 was collected from a soil stockpile generated during site grading at the Washington Street Pump Station. A field geologist screened the soil from eight discreet locations with a photoionization detector (PID) during sampling for the presence of total volatile organic compounds (TVOCs). The corresponding volatile organic compound (VOC) sample was collected from the discrete location exhibiting the highest TVOC reading. The sampled stockpile is covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for the stockpile is also tracked using a geographic information system (GIS) application created for the project. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil.

The sample included in this contained-in determination represents a volume of up to 400 cubic yards. Analytical data for the eligible sample is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The stockpile generation location is shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpile's staging location on site at the time of sampling is shown in **Figure 2**.

Soils from the Washington Street Pump Station have been included in several contained-in determinations submitted to MassDEP. In-situ samples were included in a contained-in determination that was submitted to MassDEP in December 2014 due to detectable PCE and TCE below Massachusetts Contingency Plan (MCP) S-1 standards; however, to meet current performance standards and to be consistent with on-going project soil management practices, additional contained-in determinations were prepared with updated characterization data to facilitate the disposal of soil. Soil generated from the Washington Street Pump Station were included in contained-in determinations that were submitted to MassDEP in September 2020, June 2021 (revised and resubmitted in July 2021), July 2021, November 2021, and January 2022

due to PCE and select TCE and 1,1,1-Trichloroethane (1,1,1-TCA) detections below MCP S-1 standards. The most recent Contained-In Determination is attached as **Appendix B**, which includes the other aforementioned Contained-In Determinations as attachments. The December 2014, September 2020, revised June 2021, July 2021, two November 2021, and January 2022 contained-in determinations are also available on MassDEP's online database under transaction IDs 706656, 1221372, 1297119, 1297120, 1318479, 1320846, and 1326493, respectively.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

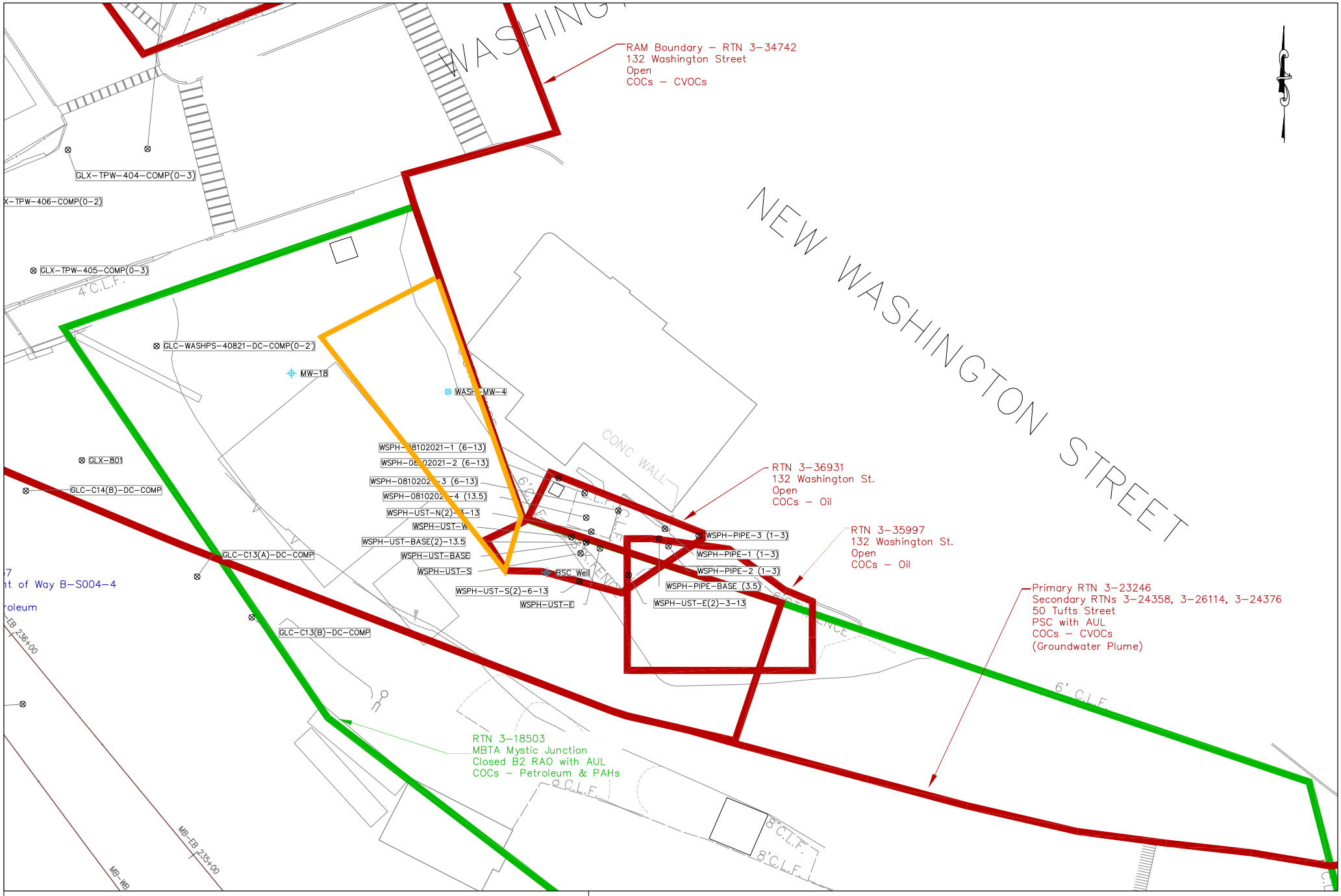
Signature Date

LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Figure 1 – Stockpile Generation Location
Figure 2 – Stockpile Staging Location
Table 1 – Summary of Soil Sample Analytical Results
Appendix A – Laboratory Report
Appendix B – January 2022 Contained-In

FIGURES

Figure 1 - Generation Location



GLXC MASTER CAD FILE – ALL
BORINGS/MONITORING WELLS 08/30/2021

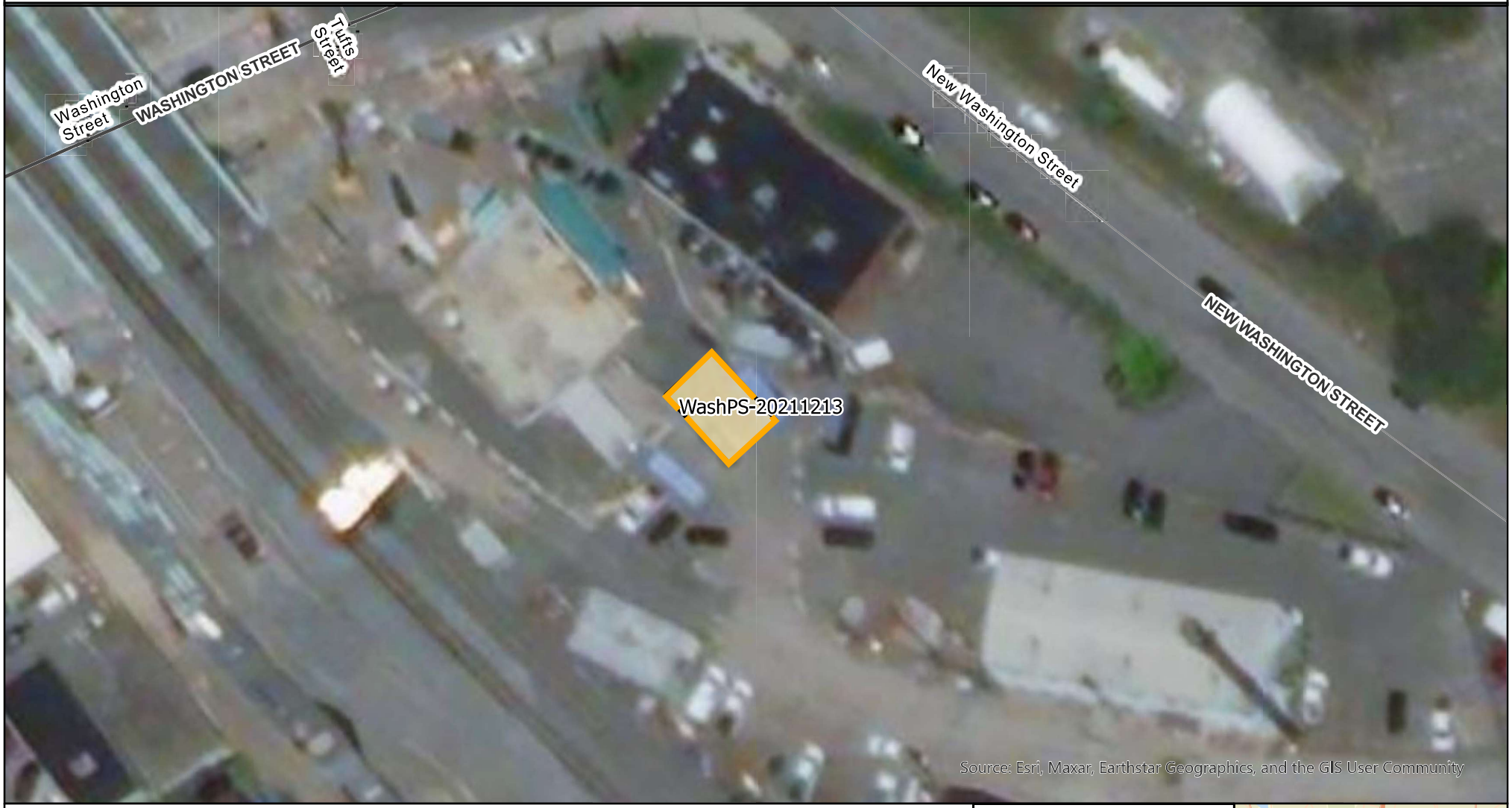
0 10 20 Feet

LEGEND

- BORING
- WELL
- RTN Closed with AUL
- RTN Closed
- RTN Open

Stockpile Generation Area

Figure 2: Stockpile Location



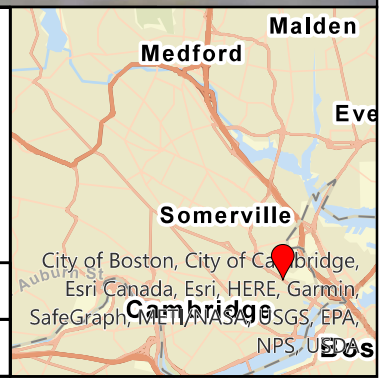
Legend

Stockpile relevant to Contained-In Determination

0 20 40 Feet

1 inch =53 ft

DRAWN BY: JLD	CHECKED BY: LV
DATE: 01/06/2022	


Malden
Medford
Somerville
Cambridge
City of Boston, City of Cambridge, Esri Canada, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

TABLES

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
December 20, 2021

						LOCATION	GLC-WASHPS20211213-DC-VOC-06	
						SAMPLING DATE	12/20/2021	
						LAB SAMPLE ID	L2170050-02	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0048	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.00096	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0014	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.00096	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.00096	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00096	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.00096	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0089	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00048	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0038	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.00096	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00048	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00048	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00096	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00048	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00048	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00048	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0038	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00048	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00063	
	Toluene	108-88-3	30	500	500	mg/kg	0.00096	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.00096	U
	Chloromethane	74-87-3				mg/kg	0.0038	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0019	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.00096	U
	Chloroethane	75-00-3				mg/kg	0.0019	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.00096	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0014	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0008	
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0019	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0019	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0019	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0019	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0019	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.00096	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.00096	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.00096	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.00096	U
	Dibromomethane	74-95-3				mg/kg	0.0019	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0019	U
	Styrene	100-42-5	3	4	70	mg/kg	0.00096	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0096	U
	Acetone	67-64-1	6	50	400	mg/kg	0.024	U
	Carbon disulfide	75-15-0				mg/kg	0.0096	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.0096	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.0096	U
	2-Hexanone	591-78-6				mg/kg	0.0096	U
	Bromochloromethane	74-97-5				mg/kg	0.0019	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0038	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0019	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00096	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0019	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00048	U
	Bromobenzene	108-86-1				mg/kg	0.0019	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.00096	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.00096	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0019	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0019	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0019	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0029	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0038	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.00096	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.00096	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0052	
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.00096	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0019	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0019	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0019	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0019	U
	Diethyl ether	60-29-7				mg/kg	0.0019	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0019	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0019	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0019	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.077	U
	Total VOCs					mg/kg	0.01553	

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A
LAB REPORTS

ANALYTICAL REPORT

Lab Number:	L2170050
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0032.0000P3T4
Report Date:	01/05/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
~~L2170050-01~~	~~GLC-WASHPS20211213-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~12/20/21 10:00~~	~~12/20/21~~
L2170050-02	GLC-WASHPS20211213-DC-VOC-06	SOIL	SOMERVILLE, MA	12/20/21 10:00	12/20/21
~~L2170050-03~~	~~GLC-NP-311A-25-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~12/20/21 12:45~~	~~12/20/21~~
~~L2170050-04~~	~~GLC-NP-311A-25-DC-VOC-08~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~12/20/21 12:45~~	~~12/20/21~~

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2170050
Project Number:	310142.0032.0000P3T4	**Report Date:**	01/05/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2170050
Project Number:	310142.0032.0000P3T4	**Report Date:**	01/05/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2170050
Project Number:	310142.0032.0000P3T4	**Report Date:**	01/05/22

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L2170050-02: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (142%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

The WG1589638-3/-4 LCS/LCSD recoveries, associated with L2170050-02 and -04, are below the individual acceptance criteria for acetone (58%/54%), but within the overall method allowances. The result of the associated samples are reported; however, all results for this compound is considered to have a potentially low bias.

L2170050-02 and -04: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: bromochloromethane (0.0952), bromodichloromethane (0.2748), 1,4-dioxane (0.0013), cis-1,3-dichloropropene (0.2458), 1,1,2-trichloroethane (0.1678)

Average Response Factor: 1,4-dioxane

L2170050-02 and -04: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

In reference to question H:

L2170050-01: The surrogate recovery is outside the individual acceptance criteria for 4-terphenyl-d14 (24%),

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2170050
Project Number:	310142.0032.0000P3T4	**Report Date:**	01/05/22

Case Narrative (continued)

but within the overall method allowances. The result of the original analysis is reported; however, all associated compounds are considered to have a potential bias.
The WG1588888-2 LCS recoveries, associated with L2170050-01 and -03, are below the individual acceptance criteria for 3,3'-dichlorobenzidine (39%) and aniline (39%), but within the overall method allowances. The results of the associated samples are reported; however, all results for these compounds are considered to have a potentially low bias.

Pesticides
In reference to question G:
L2170050-01: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.One or more of the target analytes did not achieve the requested CAM reporting limits.
In reference to question H:
The WG1588958-2/-3 LCS/LCSD RPD, associated with L2170050-01 and -03, is above the acceptance criteria for beta-bhc (32%).

Non-MCP Related Narratives
Petroleum Hydrocarbon Quantitation
L2170050-01D: The sample has an elevated detection limit due to the dilution required by the elevated concentration of target compound in the sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Sebastian Corbin

Title: Technical Director/Representative Date: 01/05/22

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	GLC-WASHPS20211213-DC-VOC-06	L2170050-02	4-Bromofluorobenzene	Surrogate	142	70-130	-	potential high bias
8260D	Batch QC	WG1589638-3	Acetone	LCS	58	70-130	02,04	potential low bias
8260D	Batch QC	WG1589638-4	Acetone	LCSD	54	70-130	02,04	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270E	GLC-WASHPS20211213-DC-COMP	L2170050-01	4-Terphenyl-d14	Surrogate	24	30-130	-	potential low bias
8270E	Batch QC	WG1588888-2	3,3'-Dichlorobenzidine	LCS	39	40-140	01,03	potential low bias
8270E	Batch QC	WG1588888-2	Aniline	LCS	39	40-140	01,03	potential low bias
MCP Organochlorine Pesticides - Westborough Lab								
8081B	Batch QC	WG1588958-3	Beta-BHC (A)	LCSD	32	30	01,03	non-directional bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2170050

Project Number: 310142.0032.0000P3T4 **Report Date:** 01/05/22

SAMPLE RESULTS

Lab ID: L2170050-02
Client ID: GLC-WASHPS20211213-DC-VOC-06
Sample Location: SOMERVILLE, MA

Date Collected: 12/20/21 10:00
Date Received: 12/20/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 12/30/21 15:32
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.96	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.96	--	1
1,2-Dichloropropane	ND		ug/kg	0.96	--	1
Dibromochloromethane	ND		ug/kg	0.96	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.96	--	1
Tetrachloroethene	8.9		ug/kg	0.48	--	1
Chlorobenzene	ND		ug/kg	0.48	--	1
Trichlorofluoromethane	ND		ug/kg	3.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.96	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.48	--	1
Bromodichloromethane	ND		ug/kg	0.48	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.96	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.48	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.48	--	1
1,1-Dichloropropene	ND		ug/kg	0.48	--	1
Bromoform	ND		ug/kg	3.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Benzene	0.63		ug/kg	0.48	--	1
Toluene	ND		ug/kg	0.96	--	1
Ethylbenzene	ND		ug/kg	0.96	--	1
Chloromethane	ND		ug/kg	3.8	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.96	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.96	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2170050

Project Number: 310142.0032.0000P3T4 **Report Date:** 01/05/22

SAMPLE RESULTS

Lab ID: L2170050-02 Date Collected: 12/20/21 10:00

Client ID: GLC-WASHPS20211213-DC-VOC-06 Date Received: 12/20/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	0.80		ug/kg	0.48	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.96	--	1
Xylenes, Total	ND		ug/kg	0.96	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.96	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.96	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.96	--	1
Dichlorodifluoromethane	ND		ug/kg	9.6	--	1
Acetone	ND		ug/kg	24	--	1
Carbon disulfide	ND		ug/kg	9.6	--	1
Methyl ethyl ketone	ND		ug/kg	9.6	--	1
Methyl isobutyl ketone	ND		ug/kg	9.6	--	1
2-Hexanone	ND		ug/kg	9.6	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.96	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.48	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.96	--	1
sec-Butylbenzene	ND		ug/kg	0.96	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	--	1
Hexachlorobutadiene	ND		ug/kg	3.8	--	1
Isopropylbenzene	ND		ug/kg	0.96	--	1
p-Isopropyltoluene	ND		ug/kg	0.96	--	1
Naphthalene	5.2		ug/kg	3.8	--	1
n-Propylbenzene	ND		ug/kg	0.96	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2170050

Project Number: 310142.0032.0000P3T4 **Report Date:** 01/05/22

SAMPLE RESULTS

Lab ID: L2170050-02 Date Collected: 12/20/21 10:00

Client ID: GLC-WASHPS20211213-DC-VOC-06 Date Received: 12/20/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	77	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	**142**	Q	70-130
Dibromofluoromethane	101		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2170050

Project Number: 310142.0032.0000P3T4 **Report Date:** 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/30/21 10:26
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04 Batch: WG1589638-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2170050

Project Number: 310142.0032.0000P3T4 **Report Date:** 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/30/21 10:26
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04 Batch: WG1589638-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2170050

Project Number: 310142.0032.0000P3T4 **Report Date:** 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/30/21 10:26
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04 Batch: WG1589638-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 02,04		Batch: WG1589638-3 WG1589638-4					
Methylene chloride	96		92		70-130	4		20
1,1-Dichloroethane	111		104		70-130	7		20
Chloroform	103		98		70-130	5		20
Carbon tetrachloride	101		93		70-130	8		20
1,2-Dichloropropane	114		108		70-130	5		20
Dibromochloromethane	96		93		70-130	3		20
1,1,2-Trichloroethane	98		95		70-130	3		20
Tetrachloroethene	96		89		70-130	8		20
Chlorobenzene	96		91		70-130	5		20
Trichlorofluoromethane	106		97		70-130	9		20
1,2-Dichloroethane	104		100		70-130	4		20
1,1,1-Trichloroethane	106		98		70-130	8		20
Bromodichloromethane	104		100		70-130	4		20
trans-1,3-Dichloropropene	99		95		70-130	4		20
cis-1,3-Dichloropropene	111		105		70-130	6		20
1,1-Dichloropropene	111		102		70-130	8		20
Bromoform	86		84		70-130	2		20
1,1,2,2-Tetrachloroethane	93		93		70-130	0		20
Benzene	107		100		70-130	7		20
Toluene	99		92		70-130	7		20
Ethylbenzene	98		92		70-130	6		20
Chloromethane	116		107		70-130	8		20
Bromomethane	110		106		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 02,04		Batch: WG1589638-3 WG1589638-4					
Vinyl chloride	110		101		70-130	9		20
Chloroethane	106		98		70-130	8		20
1,1-Dichloroethene	101		94		70-130	7		20
trans-1,2-Dichloroethene	104		96		70-130	8		20
Trichloroethene	104		98		70-130	6		20
1,2-Dichlorobenzene	93		89		70-130	4		20
1,3-Dichlorobenzene	93		90		70-130	3		20
1,4-Dichlorobenzene	90		88		70-130	2		20
Methyl tert butyl ether	96		95		70-130	1		20
p/m-Xylene	99		94		70-130	5		20
o-Xylene	98		93		70-130	5		20
cis-1,2-Dichloroethene	103		97		70-130	6		20
Dibromomethane	102		99		70-130	3		20
1,2,3-Trichloropropane	90		90		70-130	0		20
Styrene	98		94		70-130	4		20
Dichlorodifluoromethane	88		80		70-130	10		20
Acetone	**58**	Q	**54**	Q	70-130	7		20
Carbon disulfide	100		92		70-130	8		20
Methyl ethyl ketone	71		72		70-130	1		20
Methyl isobutyl ketone	88		89		70-130	1		20
2-Hexanone	78		78		70-130	0		20
Bromochloromethane	97		92		70-130	5		20
Tetrahydrofuran	120		119		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 02,04		Batch: WG1589638-3 WG1589638-4					
2,2-Dichloropropane	102		94		70-130	8		20
1,2-Dibromoethane	90		87		70-130	3		20
1,3-Dichloropropane	99		97		70-130	2		20
1,1,1,2-Tetrachloroethane	96		91		70-130	5		20
Bromobenzene	91		87		70-130	4		20
n-Butylbenzene	103		96		70-130	7		20
sec-Butylbenzene	98		91		70-130	7		20
tert-Butylbenzene	95		89		70-130	7		20
o-Chlorotoluene	82		78		70-130	5		20
p-Chlorotoluene	96		92		70-130	4		20
1,2-Dibromo-3-chloropropane	71		74		70-130	4		20
Hexachlorobutadiene	86		80		70-130	7		20
Isopropylbenzene	97		91		70-130	6		20
p-Isopropyltoluene	98		92		70-130	6		20
Naphthalene	81		80		70-130	1		20
n-Propylbenzene	101		95		70-130	6		20
1,2,3-Trichlorobenzene	82		80		70-130	2		20
1,2,4-Trichlorobenzene	86		85		70-130	1		20
1,3,5-Trimethylbenzene	97		91		70-130	6		20
1,2,4-Trimethylbenzene	96		91		70-130	5		20
Diethyl ether	102		101		70-130	1		20
Diisopropyl Ether	117		112		70-130	4		20
Ethyl-Tert-Butyl-Ether	105		102		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2170050

Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 02,04		Batch: WG1589638-3 WG1589638-4					
Tertiary-Amyl Methyl Ether	98		96		70-130	2		20
1,4-Dioxane	91		90		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		99		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		101		70-130
Dibromofluoromethane	99		100		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2170050
Report Date: 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 01/04/22 13:21
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 12/29/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG1588888-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	69	--
Bis(2-chloroethyl)ether	ND		ug/kg	69	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	69	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	69	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	69	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	69	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	69	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2170050
Report Date: 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 01/04/22 13:21
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 12/29/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG1588888-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	69	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	69	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	69	--
2-Chlorophenol	ND		ug/kg	69	--
2,4-Dichlorophenol	ND		ug/kg	69	--
2,4-Dimethylphenol	ND		ug/kg	69	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	790	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2170050
Report Date: 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 01/04/22 13:21
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 12/29/21 13:58

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG1588888-1					
Biphenyl[1]	ND		ug/kg	33	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		30-130
Phenol-d6	57		30-130
Nitrobenzene-d5	54		30-130
2-Fluorobiphenyl	57		30-130
2,4,6-Tribromophenol	69		30-130
4-Terphenyl-d14	60		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG1588888-2 WG1588888-3								
Acenaphthene	53		59		40-140	11		30
1,2,4-Trichlorobenzene	57		64		40-140	12		30
Hexachlorobenzene	63		70		40-140	11		30
Bis(2-chloroethyl)ether	51		60		40-140	16		30
2-Chloronaphthalene	58		65		40-140	11		30
1,2-Dichlorobenzene	53		61		40-140	14		30
1,3-Dichlorobenzene	51		57		40-140	11		30
1,4-Dichlorobenzene	51		58		40-140	13		30
3,3'-Dichlorobenzidine	**39**	Q	42		40-140	7		30
2,4-Dinitrotoluene	62		72		40-140	15		30
2,6-Dinitrotoluene	67		74		40-140	10		30
Azobenzene	52		58		40-140	11		30
Fluoranthene	54		61		40-140	12		30
4-Bromophenyl phenyl ether	60		67		40-140	11		30
Bis(2-chloroisopropyl)ether	46		52		40-140	12		30
Bis(2-chloroethoxy)methane	54		62		40-140	14		30
Hexachlorobutadiene	56		63		40-140	12		30
Hexachloroethane	52		61		40-140	16		30
Isophorone	54		61		40-140	12		30
Naphthalene	52		58		40-140	11		30
Nitrobenzene	54		63		40-140	15		30
Bis(2-ethylhexyl)phthalate	58		66		40-140	13		30
Butyl benzyl phthalate	59		67		40-140	13		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG1588888-2 WG1588888-3								
Di-n-butylphthalate	56		63		40-140	12		30
Di-n-octylphthalate	57		64		40-140	12		30
Diethyl phthalate	58		65		40-140	11		30
Dimethyl phthalate	62		69		40-140	11		30
Benzo(a)anthracene	50		56		40-140	11		30
Benzo(a)pyrene	48		54		40-140	12		30
Benzo(b)fluoranthene	54		61		40-140	12		30
Benzo(k)fluoranthene	51		58		40-140	13		30
Chrysene	51		57		40-140	11		30
Acenaphthylene	56		63		40-140	12		30
Anthracene	50		57		40-140	13		30
Benzo(ghi)perylene	51		57		40-140	11		30
Fluorene	55		62		40-140	12		30
Phenanthrene	50		57		40-140	13		30
Dibenzo(a,h)anthracene	52		59		40-140	13		30
Indeno(1,2,3-cd)pyrene	50		57		40-140	13		30
Pyrene	53		60		40-140	12		30
Aniline	**39**	Q	46		40-140	16		30
4-Chloroaniline	51		57		40-140	11		30
Dibenzofuran	54		61		40-140	12		30
2-Methylnaphthalene	56		62		40-140	10		30
Acetophenone	58		67		40-140	14		30
2,4,6-Trichlorophenol	63		70		30-130	11		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG1588888-2 WG1588888-3								
2-Chlorophenol	58		65		30-130	11		30
2,4-Dichlorophenol	63		71		30-130	12		30
2,4-Dimethylphenol	58		67		30-130	14		30
2-Nitrophenol	67		77		30-130	14		30
4-Nitrophenol	52		61		30-130	16		30
2,4-Dinitrophenol	38		50		30-130	27		30
Pentachlorophenol	49		58		30-130	17		30
Phenol	55		64		30-130	15		30
2-Methylphenol	56		67		30-130	18		30
3-Methylphenol/4-Methylphenol	63		72		30-130	13		30
2,4,5-Trichlorophenol	66		74		30-130	11		30
Pyridine	41		46		30-130	11		30
Biphenyl[1]	59		65		40-140	10		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	56		64		30-130
Phenol-d6	59		67		30-130
Nitrobenzene-d5	56		63		30-130
2-Fluorobiphenyl	57		63		30-130
2,4,6-Tribromophenol	69		78		30-130
4-Terphenyl-d14	56		63		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2170050
Report Date: 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 12/30/21 07:51
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 12/29/21 11:47

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01,03 Batch: WG1588850-1					
TPH (C10-C36)	ND		ug/kg	31800	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	86		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2170050

Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01,03 Batch: WG1588850-2								
TPH (C10-C36)	107		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	89				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2170050
Report Date: 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 01/02/22 13:20
Analyst: CW

Extraction Method: EPA 3540C
Extraction Date: 12/30/21 13:10
Cleanup Method: EPA 3665A
Cleanup Date: 01/02/22
Cleanup Method: EPA 3660B
Cleanup Date: 01/02/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01,03 Batch: WG1589280-1						
Aroclor 1016	ND		ug/kg	31.3	--	A
Aroclor 1221	ND		ug/kg	31.3	--	A
Aroclor 1232	ND		ug/kg	31.3	--	A
Aroclor 1242	ND		ug/kg	31.3	--	A
Aroclor 1248	ND		ug/kg	31.3	--	A
Aroclor 1254	ND		ug/kg	31.3	--	A
Aroclor 1260	ND		ug/kg	31.3	--	A
Aroclor 1262	ND		ug/kg	31.3	--	A
Aroclor 1268	ND		ug/kg	31.3	--	A
PCBs, Total	ND		ug/kg	31.3	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	103		30-150	B
Decachlorobiphenyl	96		30-150	B
2,4,5,6-Tetrachloro-m-xylene	100		30-150	A
Decachlorobiphenyl	88		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01,03 Batch: WG1589280-2 WG1589280-3									
Aroclor 1016	83		86		40-140	4		30	A
Aroclor 1260	81		86		40-140	6		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		90		30-150	B
Decachlorobiphenyl	78		86		30-150	B
2,4,5,6-Tetrachloro-m-xylene	85		92		30-150	A
Decachlorobiphenyl	76		85		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2170050
Report Date: 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 12/22/21 16:37
Analyst: AR

Extraction Method: EPA 8151A
Extraction Date: 12/21/21 09:46

Methylation Date: 12/22/21 10:38

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 01,03 Batch: WG1585969-1						
MCPP	ND		ug/kg	3200	--	A
MCPA	ND		ug/kg	3200	--	A
Dalapon	ND		ug/kg	32	--	A
Dicamba	ND		ug/kg	32	--	A
Dichloroprop	ND		ug/kg	32	--	A
2,4-D	ND		ug/kg	32	--	A
2,4-DB	ND		ug/kg	32	--	A
2,4,5-T	ND		ug/kg	32	--	A
2,4,5-TP (Silvex)	ND		ug/kg	32	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	101		30-150	A
DCAA	90		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2170050
Report Date: 01/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 01/03/22 12:43
Analyst: EJL

Extraction Method: EPA 3546
Extraction Date: 12/29/21 17:39
Cleanup Method: EPA 3620B
Cleanup Date: 12/31/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01,03 Batch: WG1588958-1						
Delta-BHC	ND		ug/kg	1.50	--	A
Lindane	ND		ug/kg	0.501	--	A
Alpha-BHC	ND		ug/kg	0.626	--	A
Beta-BHC	ND		ug/kg	1.50	--	A
Heptachlor	ND		ug/kg	0.752	--	A
Aldrin	ND		ug/kg	1.50	--	A
Heptachlor epoxide	ND		ug/kg	2.82	--	A
Endrin	ND		ug/kg	0.626	--	A
Endrin ketone	ND		ug/kg	1.50	--	A
Dieldrin	ND		ug/kg	0.940	--	A
4,4'-DDE	ND		ug/kg	1.50	--	A
4,4'-DDD	ND		ug/kg	1.50	--	A
4,4'-DDT	ND		ug/kg	2.82	--	A
Endosulfan I	ND		ug/kg	1.50	--	A
Endosulfan II	ND		ug/kg	1.50	--	A
Endosulfan sulfate	ND		ug/kg	0.626	--	A
Methoxychlor	ND		ug/kg	2.82	--	A
Chlordane	ND		ug/kg	12.5	--	A
Hexachlorobenzene	ND		ug/kg	1.50	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	120		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	86		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 01,03 Batch: WG1585969-2 WG1585969-3									
MCPP	98		95		40-140	3		30	A
MCPA	111		87		40-140	24		30	A
Dalapon	93		85		40-140	9		30	A
Dicamba	93		91		40-140	2		30	A
Dichloroprop	105		105		40-140	0		30	A
2,4-D	93		91		40-140	2		30	A
2,4-DB	78		67		40-140	15		30	A
2,4,5-T	91		87		40-140	4		30	A
2,4,5-TP (Silvex)	87		84		40-140	4		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	104		107		30-150	A
DCAA	104		100		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03 Batch: WG1588958-2 WG1588958-3									
Delta-BHC	68		59		40-140	14		30	A
Lindane	74		68		40-140	8		30	A
Alpha-BHC	72		68		40-140	6		30	A
Beta-BHC	90		65		40-140	**32**	Q	30	A
Heptachlor	76		76		40-140	0		30	A
Aldrin	76		77		40-140	1		30	A
Heptachlor epoxide	48		48		40-140	0		30	A
Endrin	72		72		40-140	0		30	A
Endrin ketone	64		61		40-140	5		30	A
Dieldrin	75		75		40-140	0		30	A
4,4'-DDE	67		67		40-140	0		30	A
4,4'-DDD	79		78		40-140	1		30	A
4,4'-DDT	74		73		40-140	1		30	A
Endosulfan I	66		65		40-140	2		30	A
Endosulfan II	72		72		40-140	0		30	A
Endosulfan sulfate	66		66		40-140	0		30	A
Methoxychlor	76		78		40-140	3		30	A
Hexachlorobenzene	82		73		40-140	12		30	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03 Batch: WG1588958-2 WG1588958-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		69		30-150	A
Decachlorobiphenyl	118		117		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		62		30-150	B
Decachlorobiphenyl	84		78		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2170050

Project Number: 310142.0032.0000P3T4 **Report Date:** 01/05/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1588771-1										
Antimony, Total	ND		mg/kg	2.00	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Arsenic, Total	ND		mg/kg	0.400	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Barium, Total	ND		mg/kg	0.400	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Beryllium, Total	ND		mg/kg	0.200	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Cadmium, Total	ND		mg/kg	0.400	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Chromium, Total	ND		mg/kg	0.400	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Lead, Total	ND		mg/kg	2.00	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Nickel, Total	ND		mg/kg	1.00	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Selenium, Total	ND		mg/kg	2.00	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Silver, Total	ND		mg/kg	0.400	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Thallium, Total	ND		mg/kg	2.00	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Vanadium, Total	ND		mg/kg	0.400	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD
Zinc, Total	ND		mg/kg	2.00	--	1	01/03/22 22:00	01/04/22 18:27	97,6010D	GD

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1588773-1										
Mercury, Total	ND		mg/kg	0.083	--	1	01/04/22 00:26	01/05/22 07:01	97,7471B	AC

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2170050

Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1588771-2 WG1588771-3 SRM Lot Number: D113-540								
Antimony, Total	143		139		20-250	3		30
Arsenic, Total	106		102		70-130	4		30
Barium, Total	94		92		75-125	2		30
Beryllium, Total	91		91		75-125	0		30
Cadmium, Total	95		95		75-125	0		30
Chromium, Total	97		94		70-130	3		30
Lead, Total	97		94		72-128	3		30
Nickel, Total	95		94		70-130	1		30
Selenium, Total	99		99		66-134	0		30
Silver, Total	105		100		70-131	5		30
Thallium, Total	90		90		70-130	0		30
Vanadium, Total	99		97		74-126	2		30
Zinc, Total	96		94		70-130	2		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1588773-2 WG1588773-3 SRM Lot Number: D113-540								
Mercury, Total	104		102		60-140	2		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

SAMPLE RESULTS

Lab ID: L2170050-02
Client ID: GLC-WASHPS20211213-DC-VOC-06
Sample Location: SOMERVILLE, MA

Date Collected: 12/20/21 10:00
Date Received: 12/20/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	12/21/21 09:58	121,2540G	RI

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2170050

Project Number: 310142.0032.0000P3T4 **Report Date:** 01/05/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1589842-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	01/03/22 15:00	01/03/22 16:24	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1589844-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	01/03/22 15:00	01/03/22 16:55	125,7.3	MJ

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2170050

Report Date: 01/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1586920-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1586948-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1589842-2								
Sulfide, Reactive	110		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1589844-2								
Cyanide, Reactive	96		-		30-125	-		40

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2170050-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.9	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2170050-01B	Glass 250ml/8oz unpreserved	A	NA		2.9	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8151-10(14),MCP-8081-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),MCP-8270-21(14),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2170050-02A	Vial MeOH preserved	A	NA		2.9	Y	Absent		MCP-8260HLW-21(14)
L2170050-02B	Vial NaHSO4 preserved	A	NA		2.9	Y	Absent		MCP-8260HLW-21(14)
L2170050-02C	Vial NaHSO4 preserved	A	NA		2.9	Y	Absent		MCP-8260HLW-21(14)
L2170050-02D	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		TS(7)
L2170050-03A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.9	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2170050-03B	Glass 250ml/8oz unpreserved	A	NA		2.9	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2170050-04A	Vial MeOH preserved	A	NA		2.9	Y	Absent		MCP-8260HLW-21(14)
L2170050-04B	Vial water preserved	A	NA		2.9	Y	Absent	21-DEC-21 02:22	MCP-8260HLW-21(14)
L2170050-04C	Vial water preserved	A	NA		2.9	Y	Absent	21-DEC-21 02:22	MCP-8260HLW-21(14)
L2170050-04D	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2170050
Report Date: 01/05/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2170050
Project Number:	310142.0032.0000P3T4	**Report Date:**	01/05/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2170050
Project Number:	310142.0032.0000P3T4	**Report Date:**	01/05/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2170050
Project Number:	310142.0032.0000P3T4	**Report Date:**	01/05/22

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2170050
Project Number:	310142.0032.0000P3T4	**Report Date:**	01/05/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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PAGE | OF |

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/20/21 | ALPHA Job #: L2170050

Client Information
Client: TRC Environmental Corp
Address: 2 Liberty Square
Boston, MA 02109
Phone: 617-476-1303
Fax:
Email: RNiles@trccompanies.com
☐ These samples have been Previously analyzed by Alpha

Project Information
Project Name: MBTA GLX Disposal Sampling
Project Location: Somerville, MA
Project #: 310142.0032.0000 Phase 3 Task4
Project Manager: Ryan Niles
ALPHA Quote #: 7623R1

Turn-Around Time
☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables
☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information
☒ Same as Client info PO #: 165723

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1: <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, lvolk@"".com, lnakolan@"".com, bayres@"".com
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides	
70050 -01	GLC-WASHPS20211213-DC-COMP	12/20	10:00	Soil		☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
-02	GLC-WASHPS20211213-DC-VOC-06	12/20	10:00			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-03	GLC-NP-311A-25-DC-COMP	12/20	12:45			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
-04	GLC-NP-311A-25-DC-VOC-08	12/20	12:45			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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Container Type	V	V	A	A	A	A	A	A	A	A	A	A
Preservative	F	G	A	A	A	A	A	A	A	A	A	A

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Jennifer Simpson	12/20/21 1420	Laura Volk (LauraVolk)	12/20/21 1420
Laura Volk	12/20/21 14:23	W. Nakolan AA	12/20/21 14:23
W. Nakolan AA	12/20/21		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2170050
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4
Lab Sample ID	: WG1589638-5	**Lab File ID**	: V00211230A06
Instrument ID	: VOA100		
Matrix	: SOIL	**Analysis Date**	: 12/30/21 10:26

Client Sample No.	Lab Sample ID	Analysis Date
WG1589638-3LCS	WG1589638-3	12/30/21 09:09
WG1589638-4LCSD	WG1589638-4	12/30/21 09:35
GLC-WASHPS20211213-DC-VOC-06	L2170050-02	12/30/21 15:32
GLC-NP-311A-25-DC-VOC-08	L2170050-04	12/30/21 15:58

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2170050		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4		
Instrument ID	: VOA100	**Calibration Date**	: 12/30/21 09:09		
Lab File ID	: V00211230A03	**Init. Calib. Date(s)**	: 12/03/21	12/03/21	
Sample No	: WG1589638-2	**Init. Calib. Times**	: 00:25	03:52	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	61	0
Dichlorodifluoromethane	0.226	0.198	-	12.4	20	54	0
Chloromethane	0.302	0.352	-	-16.6	20	74	0
Vinyl chloride	0.285	0.313	-	-9.8	20	68	0
Bromomethane	0.125	0.138	-	-10.4	20	68	0
Chloroethane	0.174	0.184	-	-5.7	20	65	0
Trichlorofluoromethane	0.303	0.323	-	-6.6	20	65	0
Ethyl ether	0.125	0.127	-	-1.6	20	59	0
1,1-Dichloroethene	0.205	0.208	-	-1.5	20	62	0
Carbon disulfide	0.7	0.699	-	0.1	20	65	0
Freon-113	0.201	0.208	-	-3.5	20	63	0
Acrolein	0.024	0.025	-	-4.2	20	60	0
Methylene chloride	0.252	0.243	-	3.6	20	62	0
Acetone	0.073	0.042	-	42.5*	20	35	0
trans-1,2-Dichloroethene	0.232	0.242	-	-4.3	20	63	0
Methyl acetate	0.119	0.109	-	8.4	20	54	0
Methyl tert-butyl ether	0.62	0.595	-	4	20	57	0
tert-Butyl alcohol	0.021	0.017	-	19	20	43	0
Diisopropyl ether	0.877	1.025	-	-16.9	20	70	0
1,1-Dichloroethane	0.463	0.517	-	-11.7	20	67	0
Halothane	0.169	0.168	-	0.6	20	59	0
Acrylonitrile	0.059	0.059	-	0	20	56	0
Ethyl tert-butyl ether	0.79	0.833	-	-5.4	20	63	0
Vinyl acetate	0.487	0.515	-	-5.7	20	62	0
cis-1,2-Dichloroethene	0.255	0.262	-	-2.7	20	61	0
2,2-Dichloropropane	0.359	0.365	-	-1.7	20	63	0
Bromochloromethane	0.107	0.103	-	3.7	20	57	0
Cyclohexane	0.451	0.529	-	-17.3	20	72	0
Chloroform	0.442	0.456	-	-3.2	20	63	0
Ethyl acetate	0.186	0.185	-	0.5	20	59	0
Carbon tetrachloride	0.32	0.324	-	-1.3	20	61	0
Tetrahydrofuran	0.06	0.073	-	-21.7*	20	68	0
Dibromofluoromethane	0.237	0.236	-	0.4	20	60	0
1,1,1-Trichloroethane	0.353	0.373	-	-5.7	20	64	0
2-Butanone	0.093	0.066	-	29*	20	41	.01
1,1-Dichloropropene	0.31	0.344	-	-11	20	66	0
Benzene	0.928	0.99	-	-6.7	20	64	0
tert-Amyl methyl ether	0.639	0.63	-	1.4	20	58	0
1,2-Dichloroethane-d4	0.246	0.247	-	-0.4	20	61	0
1,2-Dichloroethane	0.299	0.31	-	-3.7	20	61	0
Methyl cyclohexane	0.418	0.443	-	-6	20	63	0
Trichloroethene	0.235	0.246	-	-4.7	20	62	0
Dibromomethane	0.117	0.119	-	-1.7	20	58	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2170050		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4		
Instrument ID	: VOA100	**Calibration Date**	: 12/30/21 09:09		
Lab File ID	: V00211230A03	**Init. Calib. Date(s)**	: 12/03/21	12/03/21	
Sample No	: WG1589638-2	**Init. Calib. Times**	: 00:25	03:52	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.25	0.285	-	-14	20	67	0
2-Chloroethyl vinyl ether	0.119	0.106	-	10.9	20	52	0
Bromodichloromethane	0.31	0.323	-	-4.2	20	62	0
1,4-Dioxane	0.0018	0.00164*	-	8.9	20	50	0
cis-1,3-Dichloropropene	0.355	0.393	-	-10.7	20	61	0
Chlorobenzene-d5	1	1	-	0	20	63	0
Toluene-d8	1.415	1.417	-	-0.1	20	64	0
Toluene	0.849	0.839	-	1.2	20	62	0
4-Methyl-2-pentanone	0.109	0.096	-	11.9	20	52	0
Tetrachloroethene	0.329	0.315	-	4.3	20	58	0
trans-1,3-Dichloropropene	0.459	0.453	-	1.3	20	57	0
Ethyl methacrylate	0.403	0.359	-	10.9	20	53	0
1,1,2-Trichloroethane	0.218	0.213	-	2.3	20	58	0
Chlorodibromomethane	0.293	0.283	-	3.4	20	55	0
1,3-Dichloropropane	0.457	0.453	-	0.9	20	60	0
1,2-Dibromoethane	40	35.787	-	10.5	20	55	0
2-Hexanone	0.2	0.156	-	22*	20	49	.01
Chlorobenzene	0.903	0.871	-	3.5	20	60	0
Ethylbenzene	1.641	1.606	-	2.1	20	63	0
1,1,1,2-Tetrachloroethane	0.32	0.305	-	4.7	20	57	0
p/m Xylene	0.604	0.597	-	1.2	20	61	0
o Xylene	0.584	0.572	-	2.1	20	60	0
Styrene	0.96	0.946	-	1.5	20	59	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	63	0
Bromoform	0.339	0.29	-	14.5	20	50	0
Isopropylbenzene	3.121	3.03	-	2.9	20	61	0
4-Bromofluorobenzene	1.016	1.038	-	-2.2	20	64	0
Bromobenzene	0.696	0.636	-	8.6	20	56	0
n-Propylbenzene	3.657	3.694	-	-1	20	63	0
1,4-Dichlorobutane	1.09	1.073	-	1.6	20	61	0
1,1,2,2-Tetrachloroethane	0.619	0.578	-	6.6	20	55	0
4-Ethyltoluene	2.974	2.935	-	1.3	20	61	0
2-Chlorotoluene	2.218	1.813	-	18.3	20	52	0
1,3,5-Trimethylbenzene	2.639	2.557	-	3.1	20	61	0
1,2,3-Trichloropropane	0.503	0.452	-	10.1	20	55	0
trans-1,4-Dichloro-2-buten	0.209	0.175	-	16.3	20	53	0
4-Chlorotoluene	2.258	2.165	-	4.1	20	61	0
tert-Butylbenzene	2.257	2.144	-	5	20	60	0
1,2,4-Trimethylbenzene	2.567	2.474	-	3.6	20	61	0
sec-Butylbenzene	3.348	3.266	-	2.4	20	61	0
p-Isopropyltoluene	2.83	2.758	-	2.5	20	60	0
1,3-Dichlorobenzene	1.337	1.243	-	7	20	57	0
1,4-Dichlorobenzene	1.391	1.258	-	9.6	20	57	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2170050		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4		
Instrument ID	: VOA100	**Calibration Date**	: 12/30/21 09:09		
Lab File ID	: V00211230A03	**Init. Calib. Date(s)**	: 12/03/21	12/03/21	
Sample No	: WG1589638-2	**Init. Calib. Times**	: 00:25	03:52	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.63	1.609	-	1.3	20	61	0
n-Butylbenzene	2.424	2.503	-	-3.3	20	65	0
1,2-Dichlorobenzene	1.249	1.158	-	7.3	20	57	0
1,2,4,5-Tetramethylbenzene	2.601	2.457	-	5.5	20	58	0
1,2-Dibromo-3-chloropropan	40	28.561	-	28.6*	20	43	0
1,3,5-Trichlorobenzene	0.925	0.828	-	10.5	20	54	0
Hexachlorobutadiene	0.476	0.408	-	14.3	20	52	0
1,2,4-Trichlorobenzene	0.818	0.708	-	13.4	20	52	0
Naphthalene	1.824	1.478	-	19	20	48	0
1,2,3-Trichlorobenzene	0.754	0.619	-	17.9	20	50	0

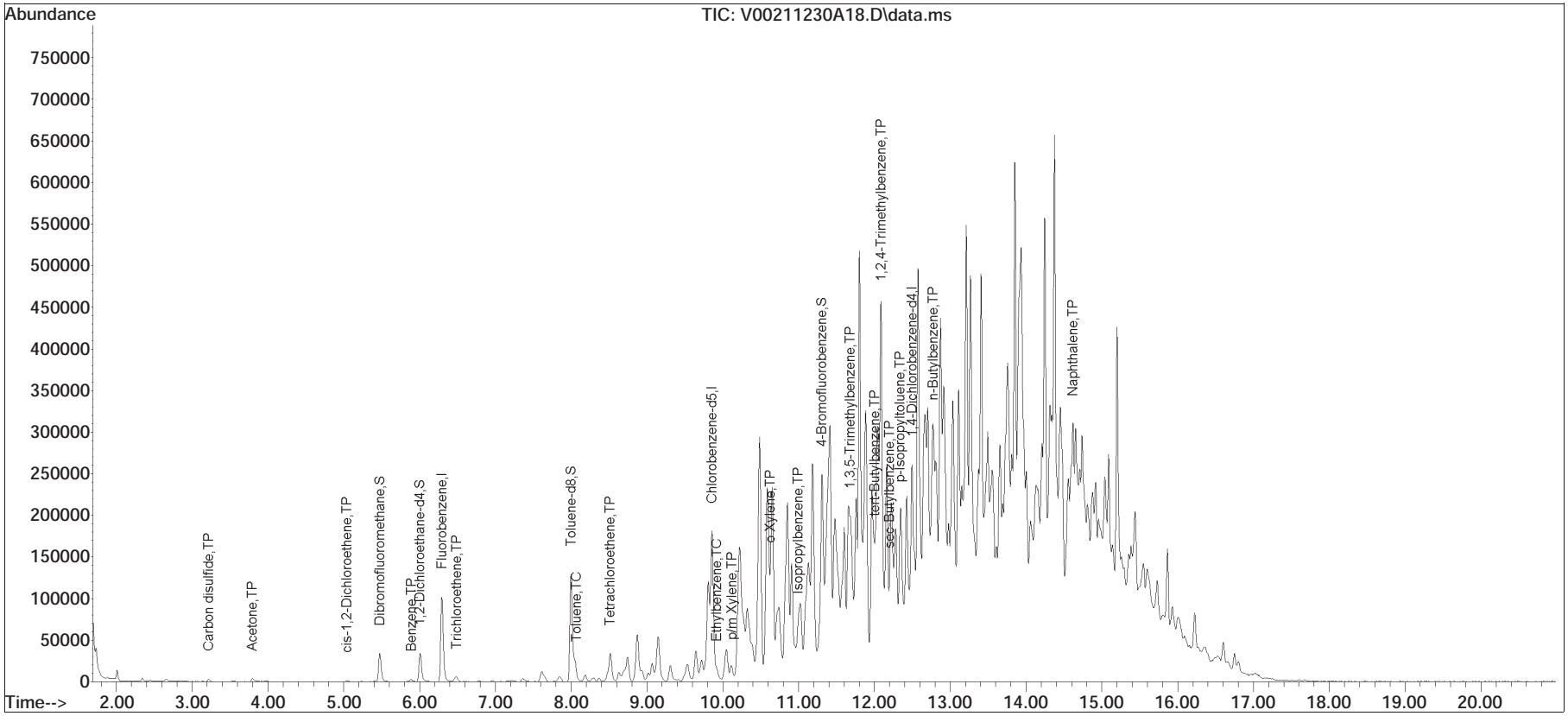
*** Value outside of QC limits.**

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA100\2021\211230A\
Data File : V00211230A18.D
Acq On : 30 Dec 2021 3:32 pm
Operator : VOA100:NLK
Sample : L2170050-02,31,6.09,5,,B
Misc : WG1589638,ICAL18517
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jan 02 11:38:40 2022
Quant Method : I:\VOLATILES\VOA100\2021\211230A\V100_211202N_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 03 09:11:47 2021
Response via : Initial Calibration

Sub List : 8260-MCP - REG- MCP LIST2021\211230A\V00211230A03.D•



Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2170050
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4
Instrument ID	: PEST15	**Analysis Date**	: 01/03/22 09:15
PEM Standard	: R1519158-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	226327.58456	701957.19767
Endrin	838315031.75282	717396977.32353
4,4'-DDD	2272370.71338	6949570.76547
4,4'-DDT	1376531024.1802	1228471732.2985
Endrin Aldehyde	344387.98294	971212.22061
Endrin Ketone	3555771.0596	3235999.31452

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.463	0.583
DDT	0.181	0.619

APPENDIX B

JANUARY 2022

CONTAINED-IN DETERMINATION

Transaction #1326493

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

December 17, 2021

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination Sediment from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding sediment that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Sediment containing hazardous wastes from RTN 3-34742 were generated to facilitate construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station. RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The sediment contained the listed hazardous waste(s) with waste codes: U210 and U228, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the sediment (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The sediment has been characterized ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated sediment are:

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results mg/kg	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
WashStPSCleanOut-102221	GLC-WASHPSSED102221-DC-VOC-3	11/9/2021	Tetrachloroethene (127-18-4)	0.023	1 mg/kg	10 mg/kg	30 mg/kg
			Trichloroethene (79-01-6)	0.0034	0.3 mg/kg	0.3 mg/kg	30 mg/kg

Tetrachloroethene (PCE) – Analytical results equal 0.023 mg/kg (below S-1 standards).

Trichloroethene (TCE) –Analytical results equal 0.0034 mg/kg (below S-1 standards).

The sample included in **Table 1-1** is included in this proposed contained-in determination.

Sample GLC-WASHPSSED102221-DC-VOC-3 was collected from a sediment stockpile generated during a clean out of the Washington Street Pump House. A field geologist screened the sediment from eight discreet locations with a photoionization detector (PID) during sampling for the presence of total volatile organic compounds (TVOCs). The corresponding volatile organic compound (VOC) sample was collected from the discrete location exhibiting the highest TVOC reading. The sampled stockpile is covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for the stockpile is also tracked using a geographic information system (GIS) application created for the project. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the sediment.

The sample included in this contained-in determination represents a volume of up to 40 cubic yards. Analytical data for the eligible sample is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The stockpile generation location is shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpile's staging location on site at the time of sampling is shown in **Figure 2**.

Soils from the Washington Street Pump Station have been included in several contained-in determinations submitted to MassDEP. In-situ samples were included in a contained-in determination that was submitted to MassDEP in December 2014 due to detectable PCE and TCE below Massachusetts Contingency Plan (MCP) S-1 standards; however, to meet current performance standards and to be consistent with on-going project soil management practices, additional contained-in determinations were prepared with updated characterization data to facilitate the disposal of soil. Soil generated from the Washington Street Pump Station were included in contained-in determinations that were submitted to MassDEP in September 2020, June 2021 (revised and resubmitted in July 2021), July 2021, and November 2021 due to PCE and

select TCE and 1,1,1-Trichloroethane (1,1,1-TCA) detections below MCP S-1 standards. The most recent Contained-In Determination is attached as **Appendix B**, which includes the other aforementioned Contained-In Determinations as attachments. The December 2014, September 2020, revised June 2021, July 2021, and two November 2021 contained-in determinations are also available on MassDEP's online database under transaction IDs 706656, 1221372, 1297119, 1297120, 1318479, and 1320846, respectively.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the sediment cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the sediment is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

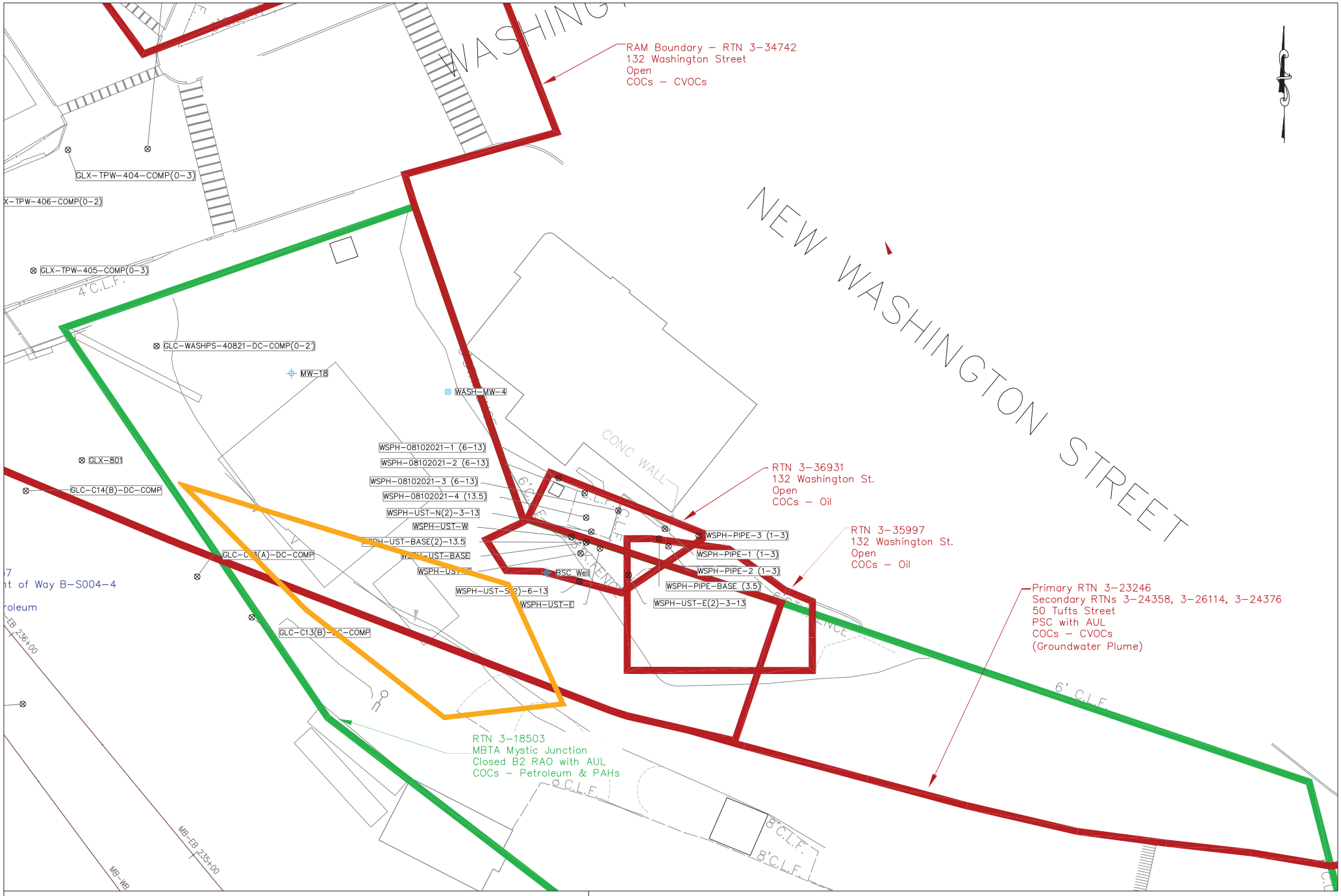
Signature Date

LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Figure 1 – Stockpile Generation Location
Figure 2 – Stockpile Staging Location
Table 1 – Summary of Sediment Sample Analytical Results
Appendix A – Laboratory Report
Appendix B – Second November 2021 Contained-In

FIGURES

Figure 1 - Generation Location



GLXC MASTER CAD FILE – ALL
BORINGS/MONITORING WELLS 08/30/2021

0 10 20 Feet

LEGEND

- BORING
- WELL
- RTN Closed with AUL
- RTN Closed
- RTN Open

Stockpile Generation Area

Figure 2: Stockpile Location

Legend

Stockpile relevant to Contained-In Determination

0 15 30 Feet

1 inch =42 ft

DRAWN BY: JCM | CHECKED BY: LV

DATE: 11/16/2021

Malden
Medford
Somerville
Cambridge
City of Boston, City of Cambridge, Esri Canada, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

TABLES

Table 1 - Summary of Sediment Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
November 9, 2021

						LOCATION	GLC-WASHPSSED102221-DC-VOC-3	
						SAMPLING DATE	11/9/2021	
						LAB SAMPLE ID	L2161496-02	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.007	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0014	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0021	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0014	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0014	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.0014	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0014	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.023	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.0007	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0056	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0014	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.0007	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.0007	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.0014	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.0007	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.0007	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.0007	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0056	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.0007	U
	Benzene	71-43-2	2	40	40	mg/kg	0.0007	U
	Toluene	108-88-3	30	500	500	mg/kg	0.0014	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0014	U
	Chloromethane	74-87-3				mg/kg	0.0056	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0028	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.0014	U
	Chloroethane	75-00-3				mg/kg	0.0028	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0014	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0021	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0034	
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0028	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0028	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0028	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0028	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0028	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0014	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.0014	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0026	
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.0026	
	Dibromomethane	74-95-3				mg/kg	0.0028	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0028	U
	Styrene	100-42-5	3	4	70	mg/kg	0.0014	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.014	U
	Acetone	67-64-1	6	50	400	mg/kg	0.035	U
	Carbon disulfide	75-15-0				mg/kg	0.014	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.014	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.014	U
	2-Hexanone	591-78-6				mg/kg	0.014	U
	Bromochloromethane	74-97-5				mg/kg	0.0028	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0056	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0028	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.0014	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0028	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.0007	U
	Bromobenzene	108-86-1				mg/kg	0.0028	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0028	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0028	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0028	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0042	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0056	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.014	
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.0014	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0028	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0028	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0028	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0028	U
	Diethyl ether	60-29-7				mg/kg	0.0028	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0028	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0028	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0028	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.11	U
	Total VOCs					mg/kg	0.043	

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A
LAB REPORTS

ANALYTICAL REPORT

Lab Number:	L2161496
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0032.0000P3T4
Report Date:	11/11/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
~~L2161496-01~~	~~GLC-WASHPSSED102221-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~11/09/21 10:40~~	~~11/09/21~~
L2161496-02	GLC-WASHPSSED102221-DC-VOC-3	SOIL	SOMERVILLE, MA	11/09/21 10:40	11/09/21

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2161496

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/11/21

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2161496
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/11/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2161496
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/11/21

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

The WG1570167-3/-4 LCS/LCSD recoveries, associated with L2161496-02, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated sample are reported; however, all results are considered to have a potentially high bias for 1,4-dioxane (135%/139%) and a potentially low bias for bromomethane (60%/59%), dichlorodifluoromethane (64%/62%) and acetone (56%/58%).

L2161496-02: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,1-dichloroethane (0.2880), cis-1,2-dichloroethene (0.1772), bromochloromethane (0.0765), trichloroethene (0.1636), bromodichloromethane (0.2239), 1,4-dioxane (0.0014), 1,1,2-trichloroethane (0.1493), 1,2-dibromoethane (0.1774), 1,2-dichloropropane (0.1676), cis-1,3-dichloropropene (0.2367), trans-1,3-dichloropropene (0.2728)

Average Response Factor: bromochloromethane, trichloroethene, bromodichloromethane, 1,4-dioxane, 1,1,2-trichloroethane

Verification: acetone (51%)

L2161496-02: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L2161496-01: The initial calibration utilized a quadratic fit for Di-n-butylphthalate.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2161496
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/11/21

Case Narrative (continued)

Pesticides

In reference to question H:

L2161496-01: The internal standard (IS) response for 1-bromo-2-nitrobenzene (206%) was above the acceptance criteria on column A; however, the sample was not re-analyzed due to obvious interferences. Since the IS response was above method criteria, all associated compounds reported from this column are considered to have a potentially low bias.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 11/11/21

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260D	Batch QC	WG1570167-3	Bromomethane	LCS	60	70-130	02	potential low bias
8260D	Batch QC	WG1570167-3	Dichlorodifluoromethane	LCS	64	70-130	02	potential low bias
8260D	Batch QC	WG1570167-3	Acetone	LCS	56	70-130	02	potential low bias
8260D	Batch QC	WG1570167-3	1,4-Dioxane	LCS	135	70-130	02	potential high bias
8260D	Batch QC	WG1570167-4	Bromomethane	LCSD	59	70-130	02	potential low bias
8260D	Batch QC	WG1570167-4	Dichlorodifluoromethane	LCSD	62	70-130	02	potential low bias
8260D	Batch QC	WG1570167-4	Acetone	LCSD	58	70-130	02	potential low bias
8260D	Batch QC	WG1570167-4	1,4-Dioxane	LCSD	139	70-130	02	potential high bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2161496

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/11/21

SAMPLE RESULTS

Lab ID: L2161496-02
Client ID: GLC-WASHPSSED102221-DC-VOC-3
Sample Location: SOMERVILLE, MA

Date Collected: 11/09/21 10:40
Date Received: 11/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 141,8260D
Analytical Date: 11/10/21 20:19
Analyst: JC
Percent Solids: 49%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	7.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.4	--	1
Chloroform	ND		ug/kg	2.1	--	1
Carbon tetrachloride	ND		ug/kg	1.4	--	1
1,2-Dichloropropane	ND		ug/kg	1.4	--	1
Dibromochloromethane	ND		ug/kg	1.4	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	--	1
Tetrachloroethene	23		ug/kg	0.70	--	1
Chlorobenzene	ND		ug/kg	0.70	--	1
Trichlorofluoromethane	ND		ug/kg	5.6	--	1
1,2-Dichloroethane	ND		ug/kg	1.4	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.70	--	1
Bromodichloromethane	ND		ug/kg	0.70	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.4	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.70	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.70	--	1
1,1-Dichloropropene	ND		ug/kg	0.70	--	1
Bromoform	ND		ug/kg	5.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.70	--	1
Benzene	ND		ug/kg	0.70	--	1
Toluene	ND		ug/kg	1.4	--	1
Ethylbenzene	ND		ug/kg	1.4	--	1
Chloromethane	ND		ug/kg	5.6	--	1
Bromomethane	ND		ug/kg	2.8	--	1
Vinyl chloride	ND		ug/kg	1.4	--	1
Chloroethane	ND		ug/kg	2.8	--	1
1,1-Dichloroethene	ND		ug/kg	1.4	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.1	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2161496

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/11/21

SAMPLE RESULTS

Lab ID: L2161496-02 Date Collected: 11/09/21 10:40

Client ID: GLC-WASHPSSED102221-DC-VOC-3 Date Received: 11/09/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	3.4		ug/kg	0.70	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.8	--	1
Methyl tert butyl ether	ND		ug/kg	2.8	--	1
p/m-Xylene	ND		ug/kg	2.8	--	1
o-Xylene	ND		ug/kg	1.4	--	1
Xylenes, Total	ND		ug/kg	1.4	--	1
cis-1,2-Dichloroethene	2.6		ug/kg	1.4	--	1
1,2-Dichloroethene, Total	2.6		ug/kg	1.4	--	1
Dibromomethane	ND		ug/kg	2.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.8	--	1
Styrene	ND		ug/kg	1.4	--	1
Dichlorodifluoromethane	ND		ug/kg	14	--	1
Acetone	ND		ug/kg	35	--	1
Carbon disulfide	ND		ug/kg	14	--	1
Methyl ethyl ketone	ND		ug/kg	14	--	1
Methyl isobutyl ketone	ND		ug/kg	14	--	1
2-Hexanone	ND		ug/kg	14	--	1
Bromochloromethane	ND		ug/kg	2.8	--	1
Tetrahydrofuran	ND		ug/kg	5.6	--	1
2,2-Dichloropropane	ND		ug/kg	2.8	--	1
1,2-Dibromoethane	ND		ug/kg	1.4	--	1
1,3-Dichloropropane	ND		ug/kg	2.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.70	--	1
Bromobenzene	ND		ug/kg	2.8	--	1
n-Butylbenzene	ND		ug/kg	1.4	--	1
sec-Butylbenzene	ND		ug/kg	1.4	--	1
tert-Butylbenzene	ND		ug/kg	2.8	--	1
o-Chlorotoluene	ND		ug/kg	2.8	--	1
p-Chlorotoluene	ND		ug/kg	2.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.2	--	1
Hexachlorobutadiene	ND		ug/kg	5.6	--	1
Isopropylbenzene	ND		ug/kg	1.4	--	1
p-Isopropyltoluene	ND		ug/kg	1.4	--	1
Naphthalene	14		ug/kg	5.6	--	1
n-Propylbenzene	ND		ug/kg	1.4	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2161496

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/11/21

SAMPLE RESULTS

Lab ID: L2161496-02 Date Collected: 11/09/21 10:40

Client ID: GLC-WASHPSSED102221-DC-VOC-3 Date Received: 11/09/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.8	--	1
Diethyl ether	ND		ug/kg	2.8	--	1
Diisopropyl Ether	ND		ug/kg	2.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.8	--	1
1,4-Dioxane	ND		ug/kg	110	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	93		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2161496

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 11/10/21 19:54
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1570167-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2161496

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 11/10/21 19:54
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1570167-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2161496
Report Date: 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 11/10/21 19:54
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1570167-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2161496

Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1570167-3 WG1570167-4								
Methylene chloride	83		83		70-130	0		20
1,1-Dichloroethane	101		99		70-130	2		20
Chloroform	91		89		70-130	2		20
Carbon tetrachloride	96		92		70-130	4		20
1,2-Dichloropropane	101		99		70-130	2		20
Dibromochloromethane	82		81		70-130	1		20
1,1,2-Trichloroethane	93		93		70-130	0		20
Tetrachloroethene	94		91		70-130	3		20
Chlorobenzene	88		86		70-130	2		20
Trichlorofluoromethane	84		82		70-130	2		20
1,2-Dichloroethane	98		98		70-130	0		20
1,1,1-Trichloroethane	99		97		70-130	2		20
Bromodichloromethane	97		96		70-130	1		20
trans-1,3-Dichloropropene	98		98		70-130	0		20
cis-1,3-Dichloropropene	99		99		70-130	0		20
1,1-Dichloropropene	103		100		70-130	3		20
Bromoform	93		93		70-130	0		20
1,1,2,2-Tetrachloroethane	97		97		70-130	0		20
Benzene	95		93		70-130	2		20
Toluene	90		88		70-130	2		20
Ethylbenzene	89		88		70-130	1		20
Chloromethane	89		88		70-130	1		20
Bromomethane	**60**	Q	**59**	Q	70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1570167-3 WG1570167-4								
Vinyl chloride	81		79		70-130	3		20
Chloroethane	78		76		70-130	3		20
1,1-Dichloroethene	91		88		70-130	3		20
trans-1,2-Dichloroethene	89		86		70-130	3		20
Trichloroethene	95		92		70-130	3		20
1,2-Dichlorobenzene	84		84		70-130	0		20
1,3-Dichlorobenzene	85		84		70-130	1		20
1,4-Dichlorobenzene	84		83		70-130	1		20
Methyl tert butyl ether	90		90		70-130	0		20
p/m-Xylene	91		89		70-130	2		20
o-Xylene	90		88		70-130	2		20
cis-1,2-Dichloroethene	89		87		70-130	2		20
Dibromomethane	92		92		70-130	0		20
1,2,3-Trichloropropane	99		99		70-130	0		20
Styrene	88		87		70-130	1		20
Dichlorodifluoromethane	**64**	Q	**62**	Q	70-130	3		20
Acetone	**56**	Q	**58**	Q	70-130	4		20
Carbon disulfide	84		82		70-130	2		20
Methyl ethyl ketone	92		84		70-130	9		20
Methyl isobutyl ketone	99		101		70-130	2		20
2-Hexanone	84		87		70-130	4		20
Bromochloromethane	85		86		70-130	1		20
Tetrahydrofuran	107		108		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1570167-3 WG1570167-4								
2,2-Dichloropropane	99		96		70-130	3		20
1,2-Dibromoethane	97		98		70-130	1		20
1,3-Dichloropropane	95		95		70-130	0		20
1,1,1,2-Tetrachloroethane	93		92		70-130	1		20
Bromobenzene	86		84		70-130	2		20
n-Butylbenzene	96		94		70-130	2		20
sec-Butylbenzene	94		92		70-130	2		20
tert-Butylbenzene	91		89		70-130	2		20
o-Chlorotoluene	94		91		70-130	3		20
p-Chlorotoluene	94		92		70-130	2		20
1,2-Dibromo-3-chloropropane	94		95		70-130	1		20
Hexachlorobutadiene	96		92		70-130	4		20
Isopropylbenzene	92		90		70-130	2		20
p-Isopropyltoluene	93		90		70-130	3		20
Naphthalene	88		88		70-130	0		20
n-Propylbenzene	93		91		70-130	2		20
1,2,3-Trichlorobenzene	88		87		70-130	1		20
1,2,4-Trichlorobenzene	87		86		70-130	1		20
1,3,5-Trimethylbenzene	91		89		70-130	2		20
1,2,4-Trimethylbenzene	90		89		70-130	1		20
Diethyl ether	86		85		70-130	1		20
Diisopropyl Ether	110		109		70-130	1		20
Ethyl-Tert-Butyl-Ether	99		99		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2161496

Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1570167-3 WG1570167-4								
Tertiary-Amyl Methyl Ether	90		89		70-130	1		20
1,4-Dioxane	**135**	Q	**139**	Q	70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		107		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	106		105		70-130
Dibromofluoromethane	95		96		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2161496
Report Date: 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 11/10/21 21:10
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/09/21 21:49

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1569289-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	70	--
Bis(2-chloroethyl)ether	ND		ug/kg	70	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	70	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	70	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	99	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	70	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	70	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	70	--
Benzo(a)anthracene	ND		ug/kg	99	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2161496

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 11/10/21 21:10
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/09/21 21:49

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1569289-1					
Benzo(b)fluoranthene	ND		ug/kg	99	--
Benzo(k)fluoranthene	ND		ug/kg	99	--
Chrysene	ND		ug/kg	99	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	99	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	99	--
Dibenzo(a,h)anthracene	ND		ug/kg	70	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	99	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	70	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	70	--
2-Chlorophenol	ND		ug/kg	70	--
2,4-Dichlorophenol	ND		ug/kg	70	--
2,4-Dimethylphenol	ND		ug/kg	70	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	800	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2161496
Report Date: 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8270E
Analytical Date: 11/10/21 21:10
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/09/21 21:49

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1569289-1					
Biphenyl[1]	ND		ug/kg	380	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	87		30-130
Phenol-d6	82		30-130
Nitrobenzene-d5	84		30-130
2-Fluorobiphenyl	86		30-130
2,4,6-Tribromophenol	96		30-130
4-Terphenyl-d14	79		30-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2161496

Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1569289-2 WG1569289-3								
Acenaphthene	76		70		40-140	8		30
1,2,4-Trichlorobenzene	72		63		40-140	13		30
Hexachlorobenzene	84		77		40-140	9		30
Bis(2-chloroethyl)ether	73		66		40-140	10		30
2-Chloronaphthalene	78		72		40-140	8		30
1,2-Dichlorobenzene	70		60		40-140	15		30
1,3-Dichlorobenzene	69		60		40-140	14		30
1,4-Dichlorobenzene	70		60		40-140	15		30
3,3'-Dichlorobenzidine	76		75		40-140	1		30
2,4-Dinitrotoluene	81		75		40-140	8		30
2,6-Dinitrotoluene	83		82		40-140	1		30
Azobenzene	88		82		40-140	7		30
Fluoranthene	77		79		40-140	3		30
4-Bromophenyl phenyl ether	87		78		40-140	11		30
Bis(2-chloroisopropyl)ether	119		107		40-140	11		30
Bis(2-chloroethoxy)methane	70		67		40-140	4		30
Hexachlorobutadiene	84		72		40-140	15		30
Hexachloroethane	78		69		40-140	12		30
Isophorone	71		67		40-140	6		30
Naphthalene	77		68		40-140	12		30
Nitrobenzene	83		75		40-140	10		30
Bis(2-ethylhexyl)phthalate	97		96		40-140	1		30
Butyl benzyl phthalate	87		85		40-140	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1569289-2 WG1569289-3								
Di-n-butylphthalate	84		87		40-140	4		30
Di-n-octylphthalate	94		92		40-140	2		30
Diethyl phthalate	86		81		40-140	6		30
Dimethyl phthalate	73		72		40-140	1		30
Benzo(a)anthracene	85		81		40-140	5		30
Benzo(a)pyrene	86		83		40-140	4		30
Benzo(b)fluoranthene	83		83		40-140	0		30
Benzo(k)fluoranthene	79		77		40-140	3		30
Chrysene	78		76		40-140	3		30
Acenaphthylene	78		76		40-140	3		30
Anthracene	78		76		40-140	3		30
Benzo(ghi)perylene	82		78		40-140	5		30
Fluorene	83		78		40-140	6		30
Phenanthrene	77		74		40-140	4		30
Dibenzo(a,h)anthracene	79		74		40-140	7		30
Indeno(1,2,3-cd)pyrene	82		77		40-140	6		30
Pyrene	78		79		40-140	1		30
Aniline	58		52		40-140	11		30
4-Chloroaniline	75		72		40-140	4		30
Dibenzofuran	83		78		40-140	6		30
2-Methylnaphthalene	74		67		40-140	10		30
Acetophenone	68		63		40-140	8		30
2,4,6-Trichlorophenol	84		83		30-130	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1569289-2 WG1569289-3								
2-Chlorophenol	78		71		30-130	9		30
2,4-Dichlorophenol	81		76		30-130	6		30
2,4-Dimethylphenol	76		73		30-130	4		30
2-Nitrophenol	88		78		30-130	12		30
4-Nitrophenol	106		102		30-130	4		30
2,4-Dinitrophenol	81		75		30-130	8		30
Pentachlorophenol	80		73		30-130	9		30
Phenol	73		68		30-130	7		30
2-Methylphenol	78		72		30-130	8		30
3-Methylphenol/4-Methylphenol	82		77		30-130	6		30
2,4,5-Trichlorophenol	86		82		30-130	5		30
Pyridine	48		42		30-130	13		30
Biphenyl[1]	74		68		40-140	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	86		76		30-130
Phenol-d6	87		79		30-130
Nitrobenzene-d5	84		76		30-130
2-Fluorobiphenyl	75		73		30-130
2,4,6-Tribromophenol	98		89		30-130
4-Terphenyl-d14	75		75		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2161496
Report Date: 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 11/10/21 13:47
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 11/09/21 17:53

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1569226-1					
TPH (C10-C36)	ND		ug/kg	31800	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	74		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2161496

Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1569226-2								
TPH (C10-C36)	95		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	74				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2161496
Report Date: 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 11/11/21 04:41
Analyst: JM

Extraction Method: EPA 3540C
Extraction Date: 11/10/21 00:55
Cleanup Method: EPA 3665A
Cleanup Date: 11/10/21
Cleanup Method: EPA 3660B
Cleanup Date: 11/11/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1569312-1						
Aroclor 1016	ND		ug/kg	32.2	--	A
Aroclor 1221	ND		ug/kg	32.2	--	A
Aroclor 1232	ND		ug/kg	32.2	--	A
Aroclor 1242	ND		ug/kg	32.2	--	A
Aroclor 1248	ND		ug/kg	32.2	--	A
Aroclor 1254	ND		ug/kg	32.2	--	A
Aroclor 1260	ND		ug/kg	32.2	--	A
Aroclor 1262	ND		ug/kg	32.2	--	A
Aroclor 1268	ND		ug/kg	32.2	--	A
PCBs, Total	ND		ug/kg	32.2	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	71		30-150	B
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	79		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2161496

Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1569312-2 WG1569312-3									
Aroclor 1016	75		77		40-140	3		30	A
Aroclor 1260	81		86		40-140	6		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		76		30-150	B
Decachlorobiphenyl	77		82		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		72		30-150	A
Decachlorobiphenyl	84		91		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2161496
Report Date: 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 11/11/21 12:49
Analyst: JWL

Extraction Method: EPA 3546
Extraction Date: 11/09/21 19:17
Cleanup Method: EPA 3620B
Cleanup Date: 11/10/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01 Batch: WG1569253-1						
Delta-BHC	ND		ug/kg	1.50	--	A
Lindane	ND		ug/kg	0.502	--	A
Alpha-BHC	ND		ug/kg	0.627	--	A
Beta-BHC	ND		ug/kg	1.50	--	A
Heptachlor	ND		ug/kg	0.752	--	A
Aldrin	ND		ug/kg	1.50	--	A
Heptachlor epoxide	ND		ug/kg	2.82	--	A
Endrin	ND		ug/kg	0.627	--	A
Endrin ketone	ND		ug/kg	1.50	--	A
Dieldrin	ND		ug/kg	0.940	--	A
4,4'-DDE	ND		ug/kg	1.50	--	A
4,4'-DDD	ND		ug/kg	1.50	--	A
4,4'-DDT	ND		ug/kg	2.82	--	A
Endosulfan I	ND		ug/kg	1.50	--	A
Endosulfan II	ND		ug/kg	1.50	--	A
Endosulfan sulfate	ND		ug/kg	0.627	--	A
Methoxychlor	ND		ug/kg	2.82	--	A
Chlordane	ND		ug/kg	12.5	--	A
Hexachlorobenzene	ND		ug/kg	1.50	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	85		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	67		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4
Lab Number: L2161496
Report Date: 11/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 11/10/21 17:45
Analyst: EJL

Extraction Method: EPA 8151A
Extraction Date: 11/09/21 23:33

Methylation Date: 11/10/21 14:10

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 01 Batch: WG1569359-1						
MCPP	ND		ug/kg	3200	--	A
MCPA	ND		ug/kg	3200	--	A
Dalapon	ND		ug/kg	32	--	A
Dicamba	ND		ug/kg	32	--	A
Dichloroprop	ND		ug/kg	32	--	A
2,4-D	ND		ug/kg	32	--	A
2,4-DB	ND		ug/kg	32	--	A
2,4,5-T	ND		ug/kg	32	--	A
2,4,5-TP (Silvex)	ND		ug/kg	32	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	88		30-150	A
DCAA	78		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01 Batch: WG1569253-2 WG1569253-3									
Delta-BHC	79		73		40-140	8		30	A
Lindane	76		73		40-140	4		30	A
Alpha-BHC	67		59		40-140	13		30	A
Beta-BHC	73		73		40-140	0		30	A
Heptachlor	85		79		40-140	7		30	A
Aldrin	74		68		40-140	8		30	A
Heptachlor epoxide	57		65		40-140	13		30	A
Endrin	79		71		40-140	11		30	A
Endrin ketone	74		66		40-140	11		30	A
Dieldrin	81		72		40-140	12		30	A
4,4'-DDE	69		62		40-140	11		30	A
4,4'-DDD	88		78		40-140	12		30	A
4,4'-DDT	77		72		40-140	7		30	A
Endosulfan I	68		60		40-140	13		30	A
Endosulfan II	78		71		40-140	9		30	A
Endosulfan sulfate	76		70		40-140	8		30	A
Methoxychlor	79		78		40-140	1		30	A
Hexachlorobenzene	66		61		40-140	8		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2161496

Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01 Batch: WG1569253-2 WG1569253-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		68		30-150	A
Decachlorobiphenyl	95		86		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		63		30-150	B
Decachlorobiphenyl	68		62		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 01 Batch: WG1569359-2 WG1569359-3									
MCPP	99		97		40-140	2		30	A
MCPA	88		90		40-140	2		30	A
Dalapon	83		80		40-140	4		30	A
Dicamba	84		85		40-140	1		30	A
Dichloroprop	93		92		40-140	1		30	A
2,4-D	83		84		40-140	1		30	A
2,4-DB	64		65		40-140	2		30	A
2,4,5-T	83		84		40-140	1		30	A
2,4,5-TP (Silvex)	79		81		40-140	3		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	87		93		30-150	A
DCAA	78		81		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2161496

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/11/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1569376-1										
Antimony, Total	ND		mg/kg	2.00	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Arsenic, Total	ND		mg/kg	0.400	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Barium, Total	ND		mg/kg	0.400	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Beryllium, Total	ND		mg/kg	0.200	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Cadmium, Total	ND		mg/kg	0.400	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Chromium, Total	ND		mg/kg	0.400	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Lead, Total	ND		mg/kg	2.00	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Nickel, Total	ND		mg/kg	1.00	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Selenium, Total	ND		mg/kg	2.00	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Silver, Total	ND		mg/kg	0.400	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Thallium, Total	ND		mg/kg	2.00	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Vanadium, Total	ND		mg/kg	0.400	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV
Zinc, Total	ND		mg/kg	2.00	--	1	11/10/21 06:45	11/10/21 09:52	97,6010D	SV

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1569377-1										
Mercury, Total	ND		mg/kg	0.083	--	1	11/10/21 07:35	11/10/21 09:29	97,7471B	AC

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2161496

Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1569376-2 WG1569376-3 SRM Lot Number: D109-540								
Antimony, Total	163		172		19-250	5		30
Arsenic, Total	106		105		70-130	1		30
Barium, Total	98		94		75-125	4		30
Beryllium, Total	98		91		75-125	7		30
Cadmium, Total	96		93		75-125	3		30
Chromium, Total	95		94		70-130	1		30
Lead, Total	98		99		72-128	1		30
Nickel, Total	97		94		70-130	3		30
Selenium, Total	107		105		68-132	2		30
Silver, Total	103		103		68-131	0		30
Thallium, Total	99		97		68-131	2		30
Vanadium, Total	98		105		59-141	7		30
Zinc, Total	99		99		70-130	0		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1569377-2 WG1569377-3 SRM Lot Number: D109-540								
Mercury, Total	89		102		60-140	14		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

SAMPLE RESULTS

Lab ID: L2161496-02
Client ID: GLC-WASHPSSED102221-DC-VOC-3
Sample Location: SOMERVILLE, MA

Date Collected: 11/09/21 10:40
Date Received: 11/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	49.1		%	0.100	NA	1	-	11/09/21 22:55	121,2540G	TR

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2161496

Project Number: 310142.0032.0000P3T4 **Report Date:** 11/11/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1569628-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	11/11/21 08:45	11/11/21 10:26	125,7.3	MJ
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1569634-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	11/11/21 08:45	11/11/21 11:17	125,7.3	MJ

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.0000P3T4

Lab Number: L2161496

Report Date: 11/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1569249-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1569284-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1569628-2								
Sulfide, Reactive	92		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1569634-2								
Cyanide, Reactive	64		-		30-125	-		40

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.0000P3T4

Lab Number: L2161496
Report Date: 11/11/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2161496-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2161496-01B	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8081-10(14),MCP-8151-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),MCP-8270-21(14),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2161496-02A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLW-21(14)
L2161496-02B	Vial water preserved	A	NA		3.6	Y	Absent	09-NOV-21 20:47	MCP-8260HLW-21(14)
L2161496-02C	Vial water preserved	A	NA		3.6	Y	Absent	09-NOV-21 20:47	MCP-8260HLW-21(14)
L2161496-02D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2161496
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/11/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2161496
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/11/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2161496
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/11/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2161496
Project Number:	310142.0032.0000P3T4	**Report Date:**	11/11/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

TRC

CHAIN OF CUSTODY

PAGE | OF |

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 11/9/21

ALPHA Job #: L2161496

Client Information

Client: TRC Environmental Corp

Address: 2 Liberty Square

Boston, MA 02109

Phone: 617-476-1303

Fax:

Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: MBTA GLX Disposal Sampling

Project Location: Somerville, MA

Project #: 310142.0032.0000 Phase 3 Task4

Project Manager: Ryan Niles

ALPHA Quote #: 7623R1

Turn-Around Time

☒ Standard ☑ Rush (ONLY IF PRE-APPROVED)

2 DAY TAT

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 165723

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1: <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, lvolk@"".com, lnakolan@"".com, bayres@"".com
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides	
61496-01	GC-L02shipseal102221-II-comp	10/9/21	1040	Soil	RA	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
02	GC-L02shipseal102221-II-rep-3	↓	↓	↓	↓	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Container Type	V	V	A	A	A	A	A	A	A	A	A	A	
Preservative	F	G	A	A	A	A	A	A	A	A	A	A	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
	1158 11/9/21	Rob Maestro AAL	11/9/21 1158
Rob Maestro AAL	11-9-21 1815		11/9 1815

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2161496
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4
Lab Sample ID	: WG1570167-5	**Lab File ID**	: V11211110P05
Instrument ID	: VOA111		
Matrix	: SOIL	**Analysis Date**	: 11/10/21 19:54

Client Sample No.	Lab Sample ID	Analysis Date
WG1570167-3LCS	WG1570167-3	11/10/21 18:37
WG1570167-4LCSD	WG1570167-4	11/10/21 19:03
GLC-WASHPSSED102221-DC-VOC-3	L2161496-02	11/10/21 20:19

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2161496		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4		
Instrument ID	: VOA111	**Calibration Date**	: 11/10/21 18:37		
Lab File ID	: V11211110P02	**Init. Calib. Date(s)**	: 10/06/21	10/06/21	
Sample No	: WG1570167-2	**Init. Calib. Times**	: 20:24	23:45	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	111	-.01
Dichlorodifluoromethane	0.202	0.129	-	36.1*	20	68	-.01
Chloromethane	0.214	0.19	-	11.2	20	98	0
Vinyl chloride	0.243	0.197	-	18.9	20	86	-.01
Bromomethane	0.168	0.101	-	39.9*	20	68	-.01
Chloroethane	0.153	0.119	-	22.2*	20	78	-.01
Trichlorofluoromethane	0.314	0.265	-	15.6	20	94	-.01
Ethyl ether	0.111	0.095	-	14.4	20	93	-.01
1,1-Dichloroethene	0.167	0.151	-	9.6	20	98	-.01
Carbon disulfide	0.545	0.457	-	16.1	20	96	-.02
Freon-113	0.166	0.157	-	5.4	20	102	-.01
Methylene chloride	0.214	0.178	-	16.8	20	95	-.01
Acetone	40	22.213	-	44.5*	20	65	-.02
trans-1,2-Dichloroethene	0.195	0.173	-	11.3	20	97	-.01
Methyl acetate	0.095	0.1	-	-5.3	20	119	-.02
Methyl tert-butyl ether	0.528	0.474	-	10.2	20	97	-.02
tert-Butyl alcohol	0.016	0.018	-	-12.5	20	113	-.01
Diisopropyl ether	0.574	0.63	-	-9.8	20	119	-.02
1,1-Dichloroethane	0.354	0.357	-	-0.8	20	107	-.02
Halothane	0.139	0.13	-	6.5	20	99	-.01
Acrylonitrile	0.052	0.056	-	-7.7	20	117	-.02
Ethyl tert-butyl ether	0.594	0.588	-	1	20	107	-.01
Vinyl acetate	0.378	0.438	-	-15.9	20	121	-.02
cis-1,2-Dichloroethene	0.217	0.193*	-	11.1	20	95	-.02
2,2-Dichloropropane	0.287	0.283	-	1.4	20	107	-.02
Bromochloromethane	0.098	0.083*	-	15.3	20	89	-.02
Cyclohexane	0.297	0.337	-	-13.5	20	125	-.01
Chloroform	0.36	0.327	-	9.2	20	99	-.02
Ethyl acetate	0.146	0.162	-	-11	20	122	-.02
Carbon tetrachloride	0.269	0.259	-	3.7	20	104	-.02
Tetrahydrofuran	40	42.655	-	-6.6	20	120	-.01
Dibromofluoromethane	0.251	0.239	-	4.8	20	105	-.01
1,1,1-Trichloroethane	0.292	0.288	-	1.4	20	101	-.02
2-Butanone	0.084	0.077	-	8.3	20	103	-.02
1,1-Dichloropropene	0.241	0.249	-	-3.3	20	106	-.01
Benzene	0.747	0.709	-	5.1	20	100	-.01
tert-Amyl methyl ether	0.527	0.475	-	9.9	20	98	-.02
1,2-Dichloroethane-d4	0.241	0.259	-	-7.5	20	122	-.02
1,2-Dichloroethane	0.261	0.255	-	2.3	20	107	-.01
Methyl cyclohexane	0.314	0.302	-	3.8	20	106	-.01
Trichloroethene	0.198	0.187*	-	5.6	20	99	-.02
Dibromomethane	0.116	0.107	-	7.8	20	95	-.01
1,2-Dichloropropane	0.2	0.203	-	-1.5	20	108	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2161496		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4		
Instrument ID	: VOA111	**Calibration Date**	: 11/10/21 18:37		
Lab File ID	: V11211110P02	**Init. Calib. Date(s)**	: 10/06/21	10/06/21	
Sample No	: WG1570167-2	**Init. Calib. Times**	: 20:24	23:45	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.266	0.257*	-	3.4	20	99	-.01
1,4-Dioxane	0.00155	0.00209*	-	-34.8*	20	136	-.01
cis-1,3-Dichloropropene	0.304	0.302	-	0.7	20	100	-.01
Chlorobenzene-d5	1	1	-	0	20	113	-.01
Toluene-d8	1.297	1.272	-	1.9	20	109	-.01
Toluene	0.658	0.592	-	10	20	99	-.02
4-Methyl-2-pentanone	40	39.744	-	0.6	20	113	-.01
Tetrachloroethene	0.272	0.255	-	6.3	20	98	-.02
trans-1,3-Dichloropropene	0.367	0.36	-	1.9	20	102	-.01
Ethyl methacrylate	0.29	0.281	-	3.1	20	100	-.01
1,1,2-Trichloroethane	0.182	0.169*	-	7.1	20	97	-.01
Chlorodibromomethane	40	32.637	-	18.4	20	95	-.01
1,3-Dichloropropane	0.373	0.354	-	5.1	20	101	-.01
1,2-Dibromoethane	0.204	0.199*	-	2.5	20	97	-.01
2-Hexanone	0.17	0.143	-	15.9	20	99	0
Chlorobenzene	0.744	0.653	-	12.2	20	94	-.01
Ethylbenzene	1.312	1.173	-	10.6	20	100	-.01
1,1,1,2-Tetrachloroethane	0.258	0.24	-	7	20	93	-.01
p/m Xylene	0.483	0.441	-	8.7	20	97	-.01
o Xylene	0.469	0.421	-	10.2	20	95	-.01
Styrene	0.819	0.724	-	11.6	20	94	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	112	0
Bromoform	0.309	0.289	-	6.5	20	99	-.01
Isopropylbenzene	2.362	2.167	-	8.3	20	100	-.01
4-Bromofluorobenzene	0.876	0.93	-	-6.2	20	120	-.01
Bromobenzene	0.605	0.52	-	14	20	92	0
n-Propylbenzene	2.875	2.667	-	7.2	20	102	-.01
1,4-Dichlorobutane	0.756	0.782	-	-3.4	20	115	-.01
1,1,2,2-Tetrachloroethane	0.501	0.485	-	3.2	20	102	0
4-Ethyltoluene	2.356	2.152	-	8.7	20	98	0
2-Chlorotoluene	1.935	1.812	-	6.4	20	101	0
1,3,5-Trimethylbenzene	2.04	1.851	-	9.3	20	99	0
1,2,3-Trichloropropane	0.402	0.397	-	1.2	20	106	-.01
trans-1,4-Dichloro-2-buten	0.137	0.165	-	-20.4*	20	129	-.01
4-Chlorotoluene	1.746	1.641	-	6	20	101	0
tert-Butylbenzene	1.709	1.553	-	9.1	20	98	0
1,2,4-Trimethylbenzene	2.022	1.83	-	9.5	20	97	0
sec-Butylbenzene	2.58	2.432	-	5.7	20	100	-.01
p-Isopropyltoluene	2.21	2.046	-	7.4	20	99	0
1,3-Dichlorobenzene	1.19	1.017	-	14.5	20	93	0
1,4-Dichlorobenzene	1.224	1.026	-	16.2	20	92	0
p-Diethylbenzene	1.308	1.19	-	9	20	96	0
n-Butylbenzene	2.003	1.927	-	3.8	20	102	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2161496	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.0000P3T4	
Instrument ID	: VOA111		**Calibration Date**	: 11/10/21 18:37	
Lab File ID	: V11211110P02		**Init. Calib. Date(s)**	: 10/06/21	10/06/21
Sample No	: WG1570167-2		**Init. Calib. Times**	: 20:24	23:45
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichlorobenzene	1.123	0.947	-	15.7	20	92	0
1,2,4,5-Tetramethylbenzene	2.063	1.837	-	11	20	95	0
1,2-Dibromo-3-chloropropan	0.077	0.072	-	6.5	20	99	0
1,3,5-Trichlorobenzene	0.838	0.743	-	11.3	20	95	0
Hexachlorobutadiene	0.408	0.391	-	4.2	20	101	0
1,2,4-Trichlorobenzene	0.767	0.669	-	12.8	20	95	0
Naphthalene	1.532	1.349	-	11.9	20	95	0
1,2,3-Trichlorobenzene	0.655	0.577	-	11.9	20	97	0

*** Value outside of QC limits.**

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2161496
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.0000P3T4
Instrument ID	: PEST15	**Analysis Date**	: 11/11/21 03:44
PEM Standard	: R1500369-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	1002415.81655	1042071.5554
Endrin	850411712.3125	700314191.25
4,4'-DDD	2706315.76739	3372340.54726
4,4'-DDT	1379138658.1324	1262511099.75
Endrin Aldehyde	2916437.25	2864638.20035
Endrin Ketone	5289505.18608	3097448.93507

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.956	0.844
DDT	0.268	0.348

APPENDIX B

SECOND NOVEMBER 2021
CONTAINED-IN DETERMINATION
(Transaction #1320846)

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

November 15, 2021

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Soils containing hazardous wastes from RTN 3-34742 were generated to facilitate construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station. RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The soil contained the listed hazardous waste(s) with waste codes: U210, U226, and U228, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results mg/kg	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
Washpumpsediment topcleanoff101821	GLC-WSPTOPCLEAN-DC-VOC-7	10/22/2021	Tetrachloroethene (127-18-4)	0.017	1 mg/kg	10 mg/kg	30 mg/kg
			1,1,1-Trichloroethane (71-55-6)	0.00041	30 mg/kg	30 mg/kg	500 mg/kg
			Trichloroethene (79-01-6)	0.00059	0.3 mg/kg	0.3 mg/kg	30 mg/kg

Tetrachloroethene (PCE) – Analytical results equal 0.017 mg/kg (below S-1 standards).

1,1,1-Trichloroethane (TCA) – Analytical results equal 0.00041 mg/kg (below S-1 standards).

Trichloroethene (TCE) –Analytical results equal 0.00059 mg/kg (below S-1 standards).

The sample included in **Table 1-1** is included in this proposed contained-in determination.

Sample GLC-WSPTOPCLEAN-DC-VOC-7 was collected from a stockpile generated largely during cleanup of sediment runoff accumulating on top of the Washington Street Pump House from the adjacent slope, plus a small quantity of residual sediment generated during a previous cleanout of the Washington Street Pump House. A field geologist screened soils from eight discreet locations with a photoionization detector (PID) during sampling for the presence of total volatile organic compounds (TVOCs). The corresponding volatile organic compound (VOC) sample was collected from the discrete location exhibiting the highest TVOC reading. The sampled stockpile is covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for the stockpile is also tracked using a geographic information system (GIS) application created for the project. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil.

The sample included in this contained-in determination represents a volume of up to 20 cubic yards. Analytical data for the eligible sample is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The stockpile generation location is shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpile's staging location on site at the time of sampling is shown in **Figure 2**.

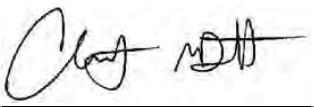
Soils from the Washington Street Pump Station have been included in several contained-in determinations submitted to MassDEP. In-situ samples were included in a contained-in determination that was submitted to MassDEP in December 2014 due to

detectable PCE and TCE below Massachusetts Contingency Plan (MCP) S-1 standards; however, to meet current performance standards and to be consistent with on-going project soil management practices, additional contained-in determinations were prepared with updated characterization data to facilitate the disposal of soil. Soil generated from the Washington Street Pump Station were included in contained-in determinations that were submitted to MassDEP in September 2020, June 2021 (revised and resubmitted in July 2021), July 2021, and November 2021 due to PCE and select TCE detections below MCP S-1 standards. The November 2021 Contained-In Determination is attached as **Appendix B**, which includes the other aforementioned Contained-In Determinations as attachments. The December 2014, September 2020, revised June 2021, July 2021, and November 2021 contained-in determinations are also available on MassDEP's online database under transaction IDs 706656, 1221372, 1297119, 1297120, and 1318479, respectively.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

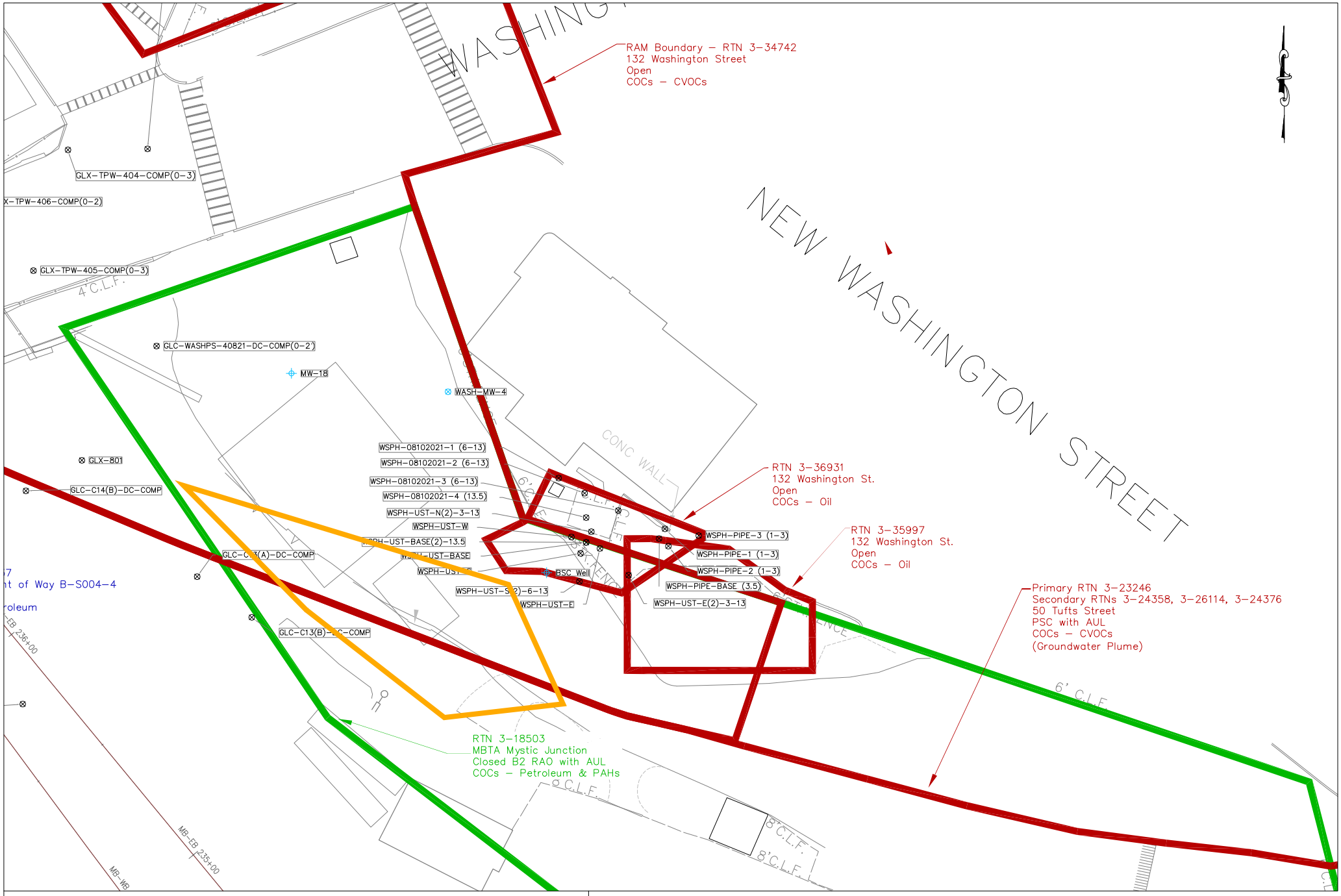
By:  11/15/2021
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments

Figure 1 – Stockpile Generation Location
Figure 2 – Stockpile Staging Location
Table 1 – Summary of Soil Sample Analytical Results
Appendix A – Laboratory Report
Appendix B – November 2021 Contained-In

FIGURES

Figure 1 - Generation Location



GLXC MASTER CAD FILE – ALL
BORINGS/MONITORING WELLS 08/30/2021

0 10 20 Feet

LEGEND

- BORING
- WELL
- RTN Closed with AUL
- RTN Closed
- RTN Open

Stockpile Generation Area

Figure 2: Stockpile Location

Legend

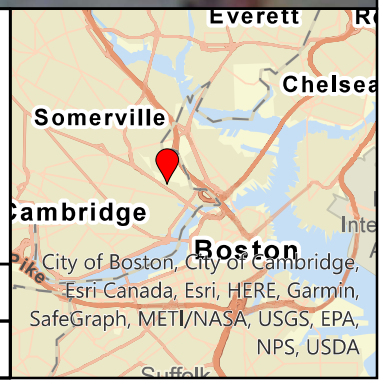
Stockpile relevant to Contained-In Determination

1 inch = 40 ft

0 15 30 Feet

DRAWN BY: JLD | CHECKED BY: LV

DATE: 11/01/21



TABLES

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
October 22, 2021

						LOCATION	GLC-WSPTOPCLEAN-DC-VOC-7	
						SAMPLING DATE	10/22/2021	
						LAB SAMPLE ID	L2158092-02	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0036	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.00071	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0011	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.00071	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.00071	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00071	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.00071	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.017	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00036	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0028	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.00071	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00041	
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00036	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00071	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00036	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00036	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00036	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0028	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00036	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00036	U
	Toluene	108-88-3	30	500	500	mg/kg	0.00071	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.00071	U
	Chloromethane	74-87-3				mg/kg	0.0028	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0014	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.00071	U
	Chloroethane	75-00-3				mg/kg	0.0014	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.00071	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0011	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00059	
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0014	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0014	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0014	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0014	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0014	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.00071	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.00071	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.00071	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.00071	U
	Dibromomethane	74-95-3				mg/kg	0.0014	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0014	U
	Styrene	100-42-5	3	4	70	mg/kg	0.00071	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0071	U
	Acetone	67-64-1	6	50	400	mg/kg	0.018	U
	Carbon disulfide	75-15-0				mg/kg	0.0071	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.0071	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.0071	U
	2-Hexanone	591-78-6				mg/kg	0.0071	U
	Bromochloromethane	74-97-5				mg/kg	0.0014	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0028	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0014	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00071	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0014	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00036	U
	Bromobenzene	108-86-1				mg/kg	0.0014	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.00071	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.00071	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0014	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0014	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0021	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0028	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.00071	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.00071	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0028	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.00071	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0014	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0014	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U
	Diethyl ether	60-29-7				mg/kg	0.0014	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0014	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0014	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0014	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.057	U
	Total VOCs					mg/kg	0.018	

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A
LAB REPORTS

ANALYTICAL REPORT

Lab Number:	L2158092
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0032 P3 T4
Report Date:	10/27/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
~~L2158092-01~~	~~GLC-WSPTOPCLEAN-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~10/22/21 13:00~~	~~10/22/21~~
L2158092-02	GLC-WSPTOPCLEAN-DC-VOC-7	SOIL	SOMERVILLE, MA	10/22/21 13:00	10/22/21

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2158092
Project Number:	310142.0032 P3 T4	**Report Date:**	10/27/21

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2158092
Project Number:	310142.0032 P3 T4	**Report Date:**	10/27/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2158092
Project Number:	310142.0032 P3 T4	**Report Date:**	10/27/21

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2158092-02: A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question H:

L2158092-02: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 2-butanone (0.0822), 1,4-dioxane (0.0014), 4-methyl-2-pentanone (0.0598)

Average Response Factor: 2-butanone, 1,4-dioxane, 4-methyl-2-pentanone

Verification: carbon disulfide (67%)

Herbicides

In reference to question H:

The WG1562955-3 LCSD recovery, associated with L2158092-01, is above the acceptance criteria for dichloroprop (147%); however, the associated sample is non-detect to the RL for this target analyte. The results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Sebastian Corbin

Title: Technical Director/Representative Date: 10/27/21

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Chlorinated Herbicides - Westborough Lab								
8151A	Batch QC	WG1562955-3	Dichloroprop	LCSD	147	40-140	01	potential high bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2158092

Project Number: 310142.0032 P3 T4 **Report Date:** 10/27/21

SAMPLE RESULTS

Lab ID: L2158092-02
Client ID: GLC-WSPTOPCLEAN-DC-VOC-7
Sample Location: SOMERVILLE, MA

Date Collected: 10/22/21 13:00
Date Received: 10/22/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/25/21 19:29
Analyst: MV
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.71	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.71	--	1
1,2-Dichloropropane	ND		ug/kg	0.71	--	1
Dibromochloromethane	ND		ug/kg	0.71	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.71	--	1
Tetrachloroethene	17		ug/kg	0.36	--	1
Chlorobenzene	ND		ug/kg	0.36	--	1
Trichlorofluoromethane	ND		ug/kg	2.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.71	--	1
1,1,1-Trichloroethane	0.41		ug/kg	0.36	--	1
Bromodichloromethane	ND		ug/kg	0.36	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.71	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.36	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.36	--	1
1,1-Dichloropropene	ND		ug/kg	0.36	--	1
Bromoform	ND		ug/kg	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Benzene	ND		ug/kg	0.36	--	1
Toluene	ND		ug/kg	0.71	--	1
Ethylbenzene	ND		ug/kg	0.71	--	1
Chloromethane	ND		ug/kg	2.8	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.71	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.71	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2158092

Project Number: 310142.0032 P3 T4 **Report Date:** 10/27/21

SAMPLE RESULTS

Lab ID: L2158092-02 Date Collected: 10/22/21 13:00

Client ID: GLC-WSPTOPCLEAN-DC-VOC-7 Date Received: 10/22/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	0.59		ug/kg	0.36	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.71	--	1
Xylenes, Total	ND		ug/kg	0.71	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.71	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.71	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.71	--	1
Dichlorodifluoromethane	ND		ug/kg	7.1	--	1
Acetone	ND		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	7.1	--	1
Methyl ethyl ketone	ND		ug/kg	7.1	--	1
Methyl isobutyl ketone	ND		ug/kg	7.1	--	1
2-Hexanone	ND		ug/kg	7.1	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.71	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.71	--	1
sec-Butylbenzene	ND		ug/kg	0.71	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.8	--	1
Isopropylbenzene	ND		ug/kg	0.71	--	1
p-Isopropyltoluene	ND		ug/kg	0.71	--	1
Naphthalene	ND		ug/kg	2.8	--	1
n-Propylbenzene	ND		ug/kg	0.71	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2158092

Project Number: 310142.0032 P3 T4 **Report Date:** 10/27/21

SAMPLE RESULTS

Lab ID: L2158092-02 Date Collected: 10/22/21 13:00

Client ID: GLC-WSPTOPCLEAN-DC-VOC-7 Date Received: 10/22/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	57	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	98		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2158092

Project Number: 310142.0032 P3 T4 **Report Date:** 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/25/21 19:04
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1563098-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2158092

Project Number: 310142.0032 P3 T4 **Report Date:** 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/25/21 19:04
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1563098-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2158092
Report Date: 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/25/21 19:04
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1563098-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1563098-3 WG1563098-4								
Methylene chloride	84		86		70-130	2		20
1,1-Dichloroethane	94		94		70-130	0		20
Chloroform	91		92		70-130	1		20
Carbon tetrachloride	106		105		70-130	1		20
1,2-Dichloropropane	91		92		70-130	1		20
Dibromochloromethane	92		92		70-130	0		20
1,1,2-Trichloroethane	93		93		70-130	0		20
Tetrachloroethene	109		108		70-130	1		20
Chlorobenzene	101		101		70-130	0		20
Trichlorofluoromethane	99		99		70-130	0		20
1,2-Dichloroethane	90		91		70-130	1		20
1,1,1-Trichloroethane	105		105		70-130	0		20
Bromodichloromethane	97		98		70-130	1		20
trans-1,3-Dichloropropene	104		105		70-130	1		20
cis-1,3-Dichloropropene	99		99		70-130	0		20
1,1-Dichloropropene	105		104		70-130	1		20
Bromoform	92		95		70-130	3		20
1,1,2,2-Tetrachloroethane	93		94		70-130	1		20
Benzene	96		96		70-130	0		20
Toluene	101		99		70-130	2		20
Ethylbenzene	102		101		70-130	1		20
Chloromethane	94		93		70-130	1		20
Bromomethane	95		94		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1563098-3 WG1563098-4								
Vinyl chloride	98		97		70-130	1		20
Chloroethane	92		91		70-130	1		20
1,1-Dichloroethene	100		100		70-130	0		20
trans-1,2-Dichloroethene	98		97		70-130	1		20
Trichloroethene	100		99		70-130	1		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	103		103		70-130	0		20
1,4-Dichlorobenzene	102		101		70-130	1		20
Methyl tert butyl ether	90		92		70-130	2		20
p/m-Xylene	105		103		70-130	2		20
o-Xylene	102		102		70-130	0		20
cis-1,2-Dichloroethene	94		94		70-130	0		20
Dibromomethane	90		92		70-130	2		20
1,2,3-Trichloropropane	92		92		70-130	0		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	102		101		70-130	1		20
Acetone	85		87		70-130	2		20
Carbon disulfide	94		91		70-130	3		20
Methyl ethyl ketone	83		82		70-130	1		20
Methyl isobutyl ketone	93		93		70-130	0		20
2-Hexanone	90		93		70-130	3		20
Bromochloromethane	91		92		70-130	1		20
Tetrahydrofuran	85		88		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1563098-3 WG1563098-4								
2,2-Dichloropropane	105		104		70-130	1		20
1,2-Dibromoethane	98		100		70-130	2		20
1,3-Dichloropropane	94		94		70-130	0		20
1,1,1,2-Tetrachloroethane	106		106		70-130	0		20
Bromobenzene	98		99		70-130	1		20
n-Butylbenzene	110		109		70-130	1		20
sec-Butylbenzene	110		108		70-130	2		20
tert-Butylbenzene	108		107		70-130	1		20
o-Chlorotoluene	106		106		70-130	0		20
p-Chlorotoluene	104		104		70-130	0		20
1,2-Dibromo-3-chloropropane	95		95		70-130	0		20
Hexachlorobutadiene	106		105		70-130	1		20
Isopropylbenzene	107		106		70-130	1		20
p-Isopropyltoluene	111		110		70-130	1		20
Naphthalene	102		100		70-130	2		20
n-Propylbenzene	106		104		70-130	2		20
1,2,3-Trichlorobenzene	98		98		70-130	0		20
1,2,4-Trichlorobenzene	104		102		70-130	2		20
1,3,5-Trimethylbenzene	107		106		70-130	1		20
1,2,4-Trimethylbenzene	105		105		70-130	0		20
Diethyl ether	90		92		70-130	2		20
Diisopropyl Ether	93		95		70-130	2		20
Ethyl-Tert-Butyl-Ether	92		94		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2158092

Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1563098-3 WG1563098-4								
Tertiary-Amyl Methyl Ether	91		93		70-130	2		20
1,4-Dioxane	85		88		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		93		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	99		98		70-130
Dibromofluoromethane	93		94		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2158092

Project Number: 310142.0032 P3 T4 **Report Date:** 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 10/23/21 12:07
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 10/22/21 18:23

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1562173-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	170	--
Hexachlorobenzene	ND		ug/kg	70	--
Bis(2-chloroethyl)ether	ND		ug/kg	70	--
2-Chloronaphthalene	ND		ug/kg	170	--
1,2-Dichlorobenzene	ND		ug/kg	170	--
1,3-Dichlorobenzene	ND		ug/kg	170	--
1,4-Dichlorobenzene	ND		ug/kg	70	--
3,3'-Dichlorobenzidine	ND		ug/kg	170	--
2,4-Dinitrotoluene	ND		ug/kg	70	--
2,6-Dinitrotoluene	ND		ug/kg	170	--
Azobenzene	ND		ug/kg	170	--
Fluoranthene	ND		ug/kg	100	--
4-Bromophenyl phenyl ether	ND		ug/kg	170	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	70	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	170	--
Hexachloroethane	ND		ug/kg	70	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	170	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	--
Butyl benzyl phthalate	ND		ug/kg	170	--
Di-n-butylphthalate	ND		ug/kg	170	--
Di-n-octylphthalate	ND		ug/kg	170	--
Diethyl phthalate	ND		ug/kg	170	--
Dimethyl phthalate	ND		ug/kg	70	--
Benzo(a)anthracene	ND		ug/kg	100	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2158092
Report Date: 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 10/23/21 12:07
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 10/22/21 18:23

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1562173-1					
Benzo(b)fluoranthene	ND		ug/kg	100	--
Benzo(k)fluoranthene	ND		ug/kg	100	--
Chrysene	ND		ug/kg	100	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	100	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	170	--
Phenanthrene	ND		ug/kg	100	--
Dibenzo(a,h)anthracene	ND		ug/kg	70	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	100	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	170	--
Dibenzofuran	ND		ug/kg	170	--
2-Methylnaphthalene	ND		ug/kg	70	--
Acetophenone	ND		ug/kg	170	--
2,4,6-Trichlorophenol	ND		ug/kg	70	--
2-Chlorophenol	ND		ug/kg	70	--
2,4-Dichlorophenol	ND		ug/kg	70	--
2,4-Dimethylphenol	ND		ug/kg	70	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	800	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	170	--
2-Methylphenol	ND		ug/kg	170	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	170	--
Pyridine	ND		ug/kg	180	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2158092
Report Date: 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 10/23/21 12:07
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 10/22/21 18:23

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG1562173-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	96		30-130
Phenol-d6	104		30-130
Nitrobenzene-d5	106		30-130
2-Fluorobiphenyl	94		30-130
2,4,6-Tribromophenol	96		30-130
4-Terphenyl-d14	106		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1562173-2 WG1562173-3								
Acenaphthene	98		111		40-140	12		30
1,2,4-Trichlorobenzene	90		97		40-140	7		30
Hexachlorobenzene	96		112		40-140	15		30
Bis(2-chloroethyl)ether	91		103		40-140	12		30
2-Chloronaphthalene	96		105		40-140	9		30
1,2-Dichlorobenzene	87		96		40-140	10		30
1,3-Dichlorobenzene	84		94		40-140	11		30
1,4-Dichlorobenzene	87		95		40-140	9		30
3,3'-Dichlorobenzidine	90		92		40-140	2		30
2,4-Dinitrotoluene	101		117		40-140	15		30
2,6-Dinitrotoluene	102		114		40-140	11		30
Azobenzene	121		138		40-140	13		30
Fluoranthene	102		117		40-140	14		30
4-Bromophenyl phenyl ether	99		111		40-140	11		30
Bis(2-chloroisopropyl)ether	104		116		40-140	11		30
Bis(2-chloroethoxy)methane	100		108		40-140	8		30
Hexachlorobutadiene	87		98		40-140	12		30
Hexachloroethane	94		101		40-140	7		30
Isophorone	105		116		40-140	10		30
Naphthalene	92		103		40-140	11		30
Nitrobenzene	103		112		40-140	8		30
Bis(2-ethylhexyl)phthalate	121		135		40-140	11		30
Butyl benzyl phthalate	117		136		40-140	15		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1562173-2 WG1562173-3								
Di-n-butylphthalate	114		130		40-140	13		30
Di-n-octylphthalate	120		135		40-140	12		30
Diethyl phthalate	104		119		40-140	13		30
Dimethyl phthalate	101		112		40-140	10		30
Benzo(a)anthracene	102		113		40-140	10		30
Benzo(a)pyrene	102		117		40-140	14		30
Benzo(b)fluoranthene	95		110		40-140	15		30
Benzo(k)fluoranthene	108		124		40-140	14		30
Chrysene	96		109		40-140	13		30
Acenaphthylene	100		111		40-140	10		30
Anthracene	98		112		40-140	13		30
Benzo(ghi)perylene	97		112		40-140	14		30
Fluorene	100		113		40-140	12		30
Phenanthrene	97		111		40-140	13		30
Dibenzo(a,h)anthracene	103		118		40-140	14		30
Indeno(1,2,3-cd)pyrene	100		108		40-140	8		30
Pyrene	100		115		40-140	14		30
Aniline	75		75		40-140	0		30
4-Chloroaniline	92		99		40-140	7		30
Dibenzofuran	97		111		40-140	13		30
2-Methylnaphthalene	92		101		40-140	9		30
Acetophenone	95		102		40-140	7		30
2,4,6-Trichlorophenol	101		111		30-130	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1562173-2 WG1562173-3								
2-Chlorophenol	97		108		30-130	11		30
2,4-Dichlorophenol	104		113		30-130	8		30
2,4-Dimethylphenol	110		122		30-130	10		30
2-Nitrophenol	98		109		30-130	11		30
4-Nitrophenol	108		126		30-130	15		30
2,4-Dinitrophenol	65		70		30-130	7		30
Pentachlorophenol	90		105		30-130	15		30
Phenol	108		116		30-130	7		30
2-Methylphenol	107		117		30-130	9		30
3-Methylphenol/4-Methylphenol	114		123		30-130	8		30
2,4,5-Trichlorophenol	105		115		30-130	9		30
Pyridine	65		80		30-130	21		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	94		103		30-130
Phenol-d6	101		111		30-130
Nitrobenzene-d5	97		109		30-130
2-Fluorobiphenyl	91		101		30-130
2,4,6-Tribromophenol	94		106		30-130
4-Terphenyl-d14	101		117		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2158092
Report Date: 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 10/23/21 18:22
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 10/23/21 01:36

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1562213-1					
TPH (C10-C36)	ND		ug/kg	32200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	87		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2158092

Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1562213-2								
TPH (C10-C36)	90		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	81				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 10/23/21 10:08
Analyst: AWS

Extraction Method: EPA 3540C
Extraction Date: 10/22/21 07:15
Cleanup Method: EPA 3665A
Cleanup Date: 10/23/21
Cleanup Method: EPA 3660B
Cleanup Date: 10/23/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG1561810-1						
Aroclor 1016	ND		ug/kg	32.2	--	A
Aroclor 1221	ND		ug/kg	32.2	--	A
Aroclor 1232	ND		ug/kg	32.2	--	A
Aroclor 1242	ND		ug/kg	32.2	--	A
Aroclor 1248	ND		ug/kg	32.2	--	A
Aroclor 1254	ND		ug/kg	32.2	--	A
Aroclor 1260	ND		ug/kg	32.2	--	A
Aroclor 1262	ND		ug/kg	32.2	--	A
Aroclor 1268	ND		ug/kg	32.2	--	A
PCBs, Total	ND		ug/kg	32.2	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	64		30-150	B
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	62		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2158092

Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG1561810-2 WG1561810-3									
Aroclor 1016	77		83		40-140	8		30	A
Aroclor 1260	76		84		40-140	10		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		67		30-150	B
Decachlorobiphenyl	58		66		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		68		30-150	A
Decachlorobiphenyl	63		70		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2158092
Report Date: 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 10/22/21 17:36
Analyst: EJL

Extraction Method: EPA 3546
Extraction Date: 10/22/21 05:37
Cleanup Method: EPA 3620B
Cleanup Date: 10/22/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01 Batch: WG1561807-1						
Delta-BHC	ND		ug/kg	1.54	--	A
Lindane	ND		ug/kg	0.512	--	A
Alpha-BHC	ND		ug/kg	0.641	--	A
Beta-BHC	ND		ug/kg	1.54	--	A
Heptachlor	ND		ug/kg	0.769	--	A
Aldrin	ND		ug/kg	1.54	--	A
Heptachlor epoxide	ND		ug/kg	2.88	--	A
Endrin	ND		ug/kg	0.641	--	A
Endrin ketone	ND		ug/kg	1.54	--	A
Dieldrin	ND		ug/kg	0.961	--	A
4,4'-DDE	ND		ug/kg	1.54	--	A
4,4'-DDD	ND		ug/kg	1.54	--	A
4,4'-DDT	ND		ug/kg	2.88	--	A
Endosulfan I	ND		ug/kg	1.54	--	A
Endosulfan II	ND		ug/kg	1.54	--	A
Endosulfan sulfate	ND		ug/kg	0.641	--	A
Methoxychlor	ND		ug/kg	2.88	--	A
Chlordane	ND		ug/kg	12.8	--	A
Hexachlorobenzene	ND		ug/kg	1.54	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	78		30-150	A
2,4,5,6-Tetrachloro-m-xylene	56		30-150	B
Decachlorobiphenyl	78		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4
Lab Number: L2158092
Report Date: 10/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 10/27/21 08:13
Analyst: AR

Extraction Method: EPA 8151A
Extraction Date: 10/25/21 22:01

Methylation Date: 10/26/21 21:51

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 01 Batch: WG1562955-1						
MCPP	ND		ug/kg	3200	--	A
MCPA	ND		ug/kg	3200	--	A
Dalapon	ND		ug/kg	32	--	A
Dicamba	ND		ug/kg	32	--	A
Dichloroprop	ND		ug/kg	32	--	A
2,4-D	ND		ug/kg	32	--	A
2,4-DB	ND		ug/kg	32	--	A
2,4,5-T	ND		ug/kg	32	--	A
2,4,5-TP (Silvex)	ND		ug/kg	32	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	88		30-150	A
DCAA	79		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01 Batch: WG1561807-2 WG1561807-3									
Delta-BHC	76		69		40-140	10		30	A
Lindane	81		76		40-140	6		30	A
Alpha-BHC	80		76		40-140	5		30	A
Beta-BHC	86		80		40-140	7		30	A
Heptachlor	86		82		40-140	5		30	A
Aldrin	76		72		40-140	5		30	A
Heptachlor epoxide	68		67		40-140	1		30	A
Endrin	82		79		40-140	4		30	A
Endrin ketone	90		88		40-140	2		30	A
Dieldrin	83		78		40-140	6		30	A
4,4'-DDE	74		69		40-140	7		30	A
4,4'-DDD	80		78		40-140	3		30	A
4,4'-DDT	86		85		40-140	1		30	A
Endosulfan I	74		70		40-140	6		30	A
Endosulfan II	80		79		40-140	1		30	A
Endosulfan sulfate	76		75		40-140	1		30	A
Methoxychlor	85		85		40-140	0		30	A
Hexachlorobenzene	74		71		40-140	4		30	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01 Batch: WG1561807-2 WG1561807-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		61		30-150	A
Decachlorobiphenyl	87		84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	62		60		30-150	B
Decachlorobiphenyl	86		83		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 01 Batch: WG1562955-2 WG1562955-3									
MCPP	104		102		40-140	2		30	A
MCPA	96		94		40-140	2		30	A
Dalapon	97		87		40-140	11		30	A
Dicamba	88		88		40-140	0		30	A
Dichloroprop	134		**147**	Q	40-140	9		30	A
2,4-D	90		88		40-140	2		30	A
2,4-DB	76		72		40-140	5		30	A
2,4,5-T	86		83		40-140	4		30	A
2,4,5-TP (Silvex)	82		81		40-140	1		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	90		86		30-150	A
DCAA	84		80		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2158092

Project Number: 310142.0032 P3 T4 **Report Date:** 10/27/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1562675-1										
Antimony, Total	ND		mg/kg	2.00	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Arsenic, Total	ND		mg/kg	0.400	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Barium, Total	ND		mg/kg	0.400	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Beryllium, Total	ND		mg/kg	0.200	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Cadmium, Total	ND		mg/kg	0.400	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Chromium, Total	ND		mg/kg	0.400	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Lead, Total	ND		mg/kg	2.00	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Nickel, Total	ND		mg/kg	1.00	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Selenium, Total	ND		mg/kg	2.00	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Silver, Total	ND		mg/kg	0.400	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Thallium, Total	ND		mg/kg	2.00	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Vanadium, Total	ND		mg/kg	0.400	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD
Zinc, Total	ND		mg/kg	2.00	--	1	10/25/21 23:29	10/26/21 13:16	97,6010D	GD

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1562677-1										
Mercury, Total	ND		mg/kg	0.083	--	1	10/26/21 00:27	10/27/21 06:17	97,7471B	AC

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2158092

Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1562675-2 WG1562675-3 SRM Lot Number: D109-540								
Antimony, Total	125		130		19-250	4		30
Arsenic, Total	97		102		70-130	5		30
Barium, Total	92		96		75-125	4		30
Beryllium, Total	89		93		75-125	4		30
Cadmium, Total	88		92		75-125	4		30
Chromium, Total	90		93		70-130	3		30
Lead, Total	92		95		72-128	3		30
Nickel, Total	88		92		70-130	4		30
Selenium, Total	95		99		68-132	4		30
Silver, Total	97		101		68-131	4		30
Thallium, Total	89		91		68-131	2		30
Vanadium, Total	98		104		59-141	6		30
Zinc, Total	94		97		70-130	3		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1562677-2 WG1562677-3 SRM Lot Number: D109-540								
Mercury, Total	95		92		60-140	3		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

SAMPLE RESULTS

Lab ID: L2158092-02
Client ID: GLC-WSPTOPCLEAN-DC-VOC-7
Sample Location: SOMERVILLE, MA

Date Collected: 10/22/21 13:00
Date Received: 10/22/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.1		%	0.100	NA	1	-	10/23/21 06:59	121,2540G	RI

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2158092

Project Number: 310142.0032 P3 T4 **Report Date:** 10/27/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1563208-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	10/26/21 13:47	10/26/21 15:57	125,7.3	CS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1563212-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	10/26/21 13:47	10/26/21 17:02	125,7.3	CS

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 P3 T4

Lab Number: L2158092

Report Date: 10/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1562194-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1562242-1								
Specific Conductance	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1563208-2								
Sulfide, Reactive	71		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1563212-2								
Cyanide, Reactive	42		-		30-125	-		40

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 P3 T4

Lab Number: L2158092
Report Date: 10/27/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2158092-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.5	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2158092-01B	Glass 250ml/8oz unpreserved	A	NA		3.5	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8151-10(14),MCP-8081-10(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2158092-02A	Vial MeOH preserved	A	NA		3.5	Y	Absent		MCP-8260HLG-10(14)
L2158092-02B	Vial NaHSO4 preserved	A	NA		3.5	Y	Absent		MCP-8260HLG-10(14)
L2158092-02C	Vial NaHSO4 preserved	A	NA		3.5	Y	Absent		MCP-8260HLG-10(14)
L2158092-02D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2158092
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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

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Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2158092
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REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 10/22/21

ALPHA Job #: L2158092

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: TRC Environmental Corp

Address: 2 Liberty Square

Boston, MA 02109

Phone: 617-476-1303

Fax:

Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: MBTA GLX Disposal Sampling

Project Location: Somerville, MA

Project #: 310142.0032.0000 Phase 3 Task4

Project Manager: Ryan Niles

ALPHA Quote #: 7623R1

Turn-Around Time

~~☒ Standard~~ NF

☒ Rush (ONLY IF PRE-APPROVED) 2 Day TAT

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 165723

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1: <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, lvolk@"".com, lnakolan@"".com, bayres@"".com
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides	TOTAL # BOTTLES
58092-1	GLC-WSPtopclean-DC-COMP	10/22/21	13:00	Soil	NF	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
-2	GLC-WSPtopclean-DC-VOC-1	↓	↓	↓	NF	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Container Type	V	V	A	A	A	A	A	A	A	A	A	A
Preservative	F	G	A	A	A	A	A	A	A	A	A	A

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Jennifer Lajoie	10/22/21 16:00	W. Daniels ALPHA	10/22/21 15:47
W. Daniels ALPHA	10/22/21 17:40		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2158092
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4
Lab Sample ID	: WG1563098-5	**Lab File ID**	: V23211025N04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 10/25/21 19:04

Client Sample No.	Lab Sample ID	Analysis Date
WG1563098-3LCS	WG1563098-3	10/25/21 17:49
WG1563098-4LCSD	WG1563098-4	10/25/21 18:14
GLC-WSPTOPCLEAN-DC-VOC-7	L2158092-02	10/25/21 19:29

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2158092		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4		
Instrument ID	: VOA123	**Calibration Date**	: 10/25/21 17:49		
Lab File ID	: V23211025N01	**Init. Calib. Date(s)**	: 10/20/21	10/21/21	
Sample No	: WG1563098-2	**Init. Calib. Times**	: 20:51	00:36	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	123	0
Dichlorodifluoromethane	0.277	0.283	-	-2.2	20	118	0
Chloromethane	0.264	0.247	-	6.4	20	113	0
Vinyl chloride	0.288	0.282	-	2.1	20	113	0
Bromomethane	0.258	0.245	-	5	20	114	0
Chloroethane	0.218	0.2	-	8.3	20	110	0
Trichlorofluoromethane	0.55	0.546	-	0.7	20	117	0
Ethyl ether	0.132	0.119	-	9.8	20	106	0
1,1-Dichloroethene	0.222	0.222	-	0	20	118	0
Carbon disulfide	0.702	0.658	-	6.3	20	117	0
Freon-113	0.228	0.238	-	-4.4	20	120	0
Acrolein	0.022	0.02*	-	9.1	20	109	0
Methylene chloride	0.286	0.242	-	15.4	20	105	0
Acetone	40	34.058	-	14.9	20	94	-.01
trans-1,2-Dichloroethene	0.259	0.253	-	2.3	20	116	0
Methyl acetate	0.128	0.103	-	19.5	20	101	0
Methyl tert-butyl ether	0.644	0.578	-	10.2	20	104	0
tert-Butyl alcohol	0.019	0.016*	-	15.8	20	95	0
Diisopropyl ether	0.751	0.701	-	6.7	20	109	0
1,1-Dichloroethane	0.455	0.429	-	5.7	20	112	0
Halothane	0.195	0.195	-	0	20	117	0
Acrylonitrile	0.059	0.051	-	13.6	20	97	0
Ethyl tert-butyl ether	0.691	0.638	-	7.7	20	108	0
Vinyl acetate	0.478	0.484	-	-1.3	20	114	0
cis-1,2-Dichloroethene	0.295	0.276	-	6.4	20	111	0
2,2-Dichloropropane	0.372	0.392	-	-5.4	20	122	0
Bromochloromethane	0.15	0.136	-	9.3	20	108	0
Cyclohexane	0.357	0.369	-	-3.4	20	117	0
Chloroform	0.503	0.459	-	8.7	20	110	0
Ethyl acetate	0.188	0.16	-	14.9	20	96	0
Carbon tetrachloride	0.382	0.406	-	-6.3	20	121	0
Tetrahydrofuran	0.066	0.057	-	13.6	20	95	0
Dibromofluoromethane	0.273	0.255	-	6.6	20	114	0
1,1,1-Trichloroethane	0.403	0.423	-	-5	20	118	0
2-Butanone	0.083	0.069*	-	16.9	20	97	0
1,1-Dichloropropene	0.32	0.335	-	-4.7	20	116	0
Benzene	0.992	0.951	-	4.1	20	110	0
tert-Amyl methyl ether	0.644	0.588	-	8.7	20	104	0
1,2-Dichloroethane-d4	0.24	0.222	-	7.5	20	113	0
1,2-Dichloroethane	0.332	0.3	-	9.6	20	106	0
Methyl cyclohexane	0.399	0.411	-	-3	20	117	0
Trichloroethene	0.274	0.273	-	0.4	20	114	0
Dibromomethane	0.162	0.146	-	9.9	20	105	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2158092		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4		
Instrument ID	: VOA123	**Calibration Date**	: 10/25/21 17:49		
Lab File ID	: V23211025N01	**Init. Calib. Date(s)**	: 10/20/21	10/21/21	
Sample No	: WG1563098-2	**Init. Calib. Times**	: 20:51	00:36	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.256	0.233	-	9	20	106	0
2-Chloroethyl vinyl ether	0.127	0.105	-	17.3	20	92	0
Bromodichloromethane	0.361	0.35	-	3	20	108	0
1,4-Dioxane	0.00195	0.00166*	-	14.9	20	91	-.01
cis-1,3-Dichloropropene	0.397	0.393	-	1	20	111	0
Chlorobenzene-d5	1	1	-	0	20	118	0
Toluene-d8	1.237	1.226	-	0.9	20	115	0
Toluene	0.811	0.816	-	-0.6	20	112	0
4-Methyl-2-pentanone	0.084	0.078*	-	7.1	20	96	0
Tetrachloroethene	0.362	0.394	-	-8.8	20	116	0
trans-1,3-Dichloropropene	0.436	0.452	-	-3.7	20	109	0
Ethyl methacrylate	0.337	0.318	-	5.6	20	99	0
1,1,2-Trichloroethane	0.232	0.214	-	7.8	20	102	0
Chlorodibromomethane	40	36.669	-	8.3	20	106	0
1,3-Dichloropropane	0.453	0.424	-	6.4	20	102	0
1,2-Dibromoethane	0.271	0.266	-	1.8	20	102	0
2-Hexanone	0.154	0.139	-	9.7	20	95	0
Chlorobenzene	0.952	0.962	-	-1.1	20	111	0
Ethylbenzene	1.577	1.613	-	-2.3	20	112	0
1,1,1,2-Tetrachloroethane	0.36	0.382	-	-6.1	20	110	0
p/m Xylene	0.622	0.653	-	-5	20	112	0
o Xylene	0.603	0.618	-	-2.5	20	109	0
Styrene	80	72.397	-	9.5	20	106	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	113	0
Bromoform	0.416	0.384	-	7.7	20	105	0
Isopropylbenzene	2.782	2.983	-	-7.2	20	112	0
4-Bromofluorobenzene	0.763	0.754	-	1.2	20	111	0
Bromobenzene	0.766	0.75	-	2.1	20	106	0
n-Propylbenzene	3.311	3.512	-	-6.1	20	112	0
1,4-Dichlorobutane	0.757	0.709	-	6.3	20	102	0
1,1,2,2-Tetrachloroethane	0.58	0.541	-	6.7	20	99	0
4-Ethyltoluene	2.81	2.971	-	-5.7	20	113	0
2-Chlorotoluene	1.92	2.032	-	-5.8	20	112	0
1,3,5-Trimethylbenzene	2.415	2.592	-	-7.3	20	112	0
1,2,3-Trichloropropane	0.465	0.426	-	8.4	20	99	0
trans-1,4-Dichloro-2-buten	0.156	0.155	-	0.6	20	103	0
4-Chlorotoluene	2.021	2.108	-	-4.3	20	110	0
tert-Butylbenzene	2.11	2.278	-	-8	20	112	0
1,2,4-Trimethylbenzene	2.47	2.586	-	-4.7	20	111	0
sec-Butylbenzene	3.142	3.451	-	-9.8	20	113	0
p-Isopropyltoluene	2.75	3.064	-	-11.4	20	115	0
1,3-Dichlorobenzene	1.542	1.583	-	-2.7	20	110	0
1,4-Dichlorobenzene	1.564	1.59	-	-1.7	20	111	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2158092		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4		
Instrument ID	: VOA123	**Calibration Date**	: 10/25/21 17:49		
Lab File ID	: V23211025N01	**Init. Calib. Date(s)**	: 10/20/21	10/21/21	
Sample No	: WG1563098-2	**Init. Calib. Times**	: 20:51	00:36	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.643	1.821	-	-10.8	20	115	0
n-Butylbenzene	2.442	2.698	-	-10.5	20	113	0
1,2-Dichlorobenzene	1.451	1.451	-	0	20	107	0
1,2,4,5-Tetramethylbenzene	2.58	2.795	-	-8.3	20	111	0
1,2-Dibromo-3-chloropropan	0.098	0.093	-	5.1	20	94	0
1,3,5-Trichlorobenzene	1.077	1.151	-	-6.9	20	114	0
Hexachlorobutadiene	0.522	0.556	-	-6.5	20	114	0
1,2,4-Trichlorobenzene	0.99	1.027	-	-3.7	20	111	0
Naphthalene	2.056	2.108	-	-2.5	20	105	0
1,2,3-Trichlorobenzene	0.911	0.896	-	1.6	20	105	0

*** Value outside of QC limits.**

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2158092
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4
Instrument ID	: PEST10	**Analysis Date**	: 10/22/21 07:29
PEM Standard	: R1492866-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	267423.5604	242436.53775
Endrin	202723689.58464	147188668.90429
4,4'-DDD	1105055.59584	1105190.40034
4,4'-DDT	355355556.68521	242097793.99846
Endrin Aldehyde	142518.06527	176435.33921
Endrin Ketone	705216.25693	452747.99958

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.416	0.426
DDT	0.385	0.554

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2158092
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 P3 T4
Instrument ID	: PEST11	**Analysis Date**	: 10/23/21 08:24
PEM Standard	: R1493565-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	88579.17596	407205.66481
Endrin	278434988.86729	389320135.01551
4,4'-DDD	574467.1871	988196.22593
4,4'-DDT	488585730.5048	672363909.56979
Endrin Aldehyde	195309.52858	321620.69852
Endrin Ketone	754418.4221	1366160.80392

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.340	0.432
DDT	0.136	0.207

APPENDIX B

NOVEMBER 2021 CONTAINED-IN DETERMINATION

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

November 15, 2021

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Soils containing hazardous wastes from RTN 3-34742 were generated to facilitate the removal of an underground storage tank (UST) discovered during construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station. RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The soil contained the listed hazardous waste(s) with waste code: U210, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results mg/kg	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
NP 306A-18	GLC-NP-306A-18-C-DC-VOC-7	10/7/2021	Tetrachloroethene (127-18-4)	0.05	1 mg/kg	10 mg/kg	30 mg/kg

Tetrachloroethene (PCE) - Analytical results from stockpile NP 306A-18 ranged from non-detect (three samples) to 0.05 mg/kg (one sample; below S-1 standards). The sample in the table above is included in this proposed contained-in determination.

Sample GLC-NP-306A-18-C-DC-VOC-7 was collected from a stockpile generated during the removal of a UST within the Washington Street Pump Station. Sample GLC-NP-306A-18-C-DC-VOC-7 was one of four samples collected to characterize the soil for disposal criteria; PCE was not detected in the other three samples. For each sample, a field geologist screened soils from eight discreet locations with a photoionization detector (PID) during sampling for the presence of total volatile organic compounds (TVOCs). The corresponding volatile organic compound (VOC) samples were collected from the discrete locations exhibiting the highest TVOC reading. The sampled stockpile is covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for the stockpile is also tracked using a geographic information system (GIS) application created for the project. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil.

The sample included in this contained-in determination represents a volume of up to 500 cubic yards. Analytical data for the eligible sample is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The stockpile generation location is shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpile's staging location on site at the time of sampling is shown in **Figure 2**.

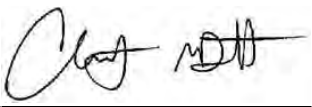
Soils from the Washington Street Pump Station have been included in several contained-in determinations submitted to MassDEP. In-Situ samples were included in a contained-in determination that was submitted to MassDEP in December 2014 due to detectable PCE and trichloroethene (TCE) below Massachusetts Contingency Plan (MCP) S-1 standards; however, to meet current performance standards and to be consistent with on-going project soil management practices, additional contained-in determinations were prepared with updated characterization data to facilitate the disposal of soil. Soil generated from the Washington Street Pump Station were included in contained-in determinations that were submitted to MassDEP in September 2020, June 2021 (revised and resubmitted in July 2021), and July 2021 due to PCE and select TCE detections below MCP S-1 standards. The July 2021 Contained-In Determination is attached as **Appendix B**, which includes the other aforementioned Contained-In Determinations as attachments. The December 2014, September 2020,

revised June 2021, and July 2021 contained-in determinations are also available on MassDEP's online database under transaction IDs 706656, 1221372, 1297119 and 1297120, respectively.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

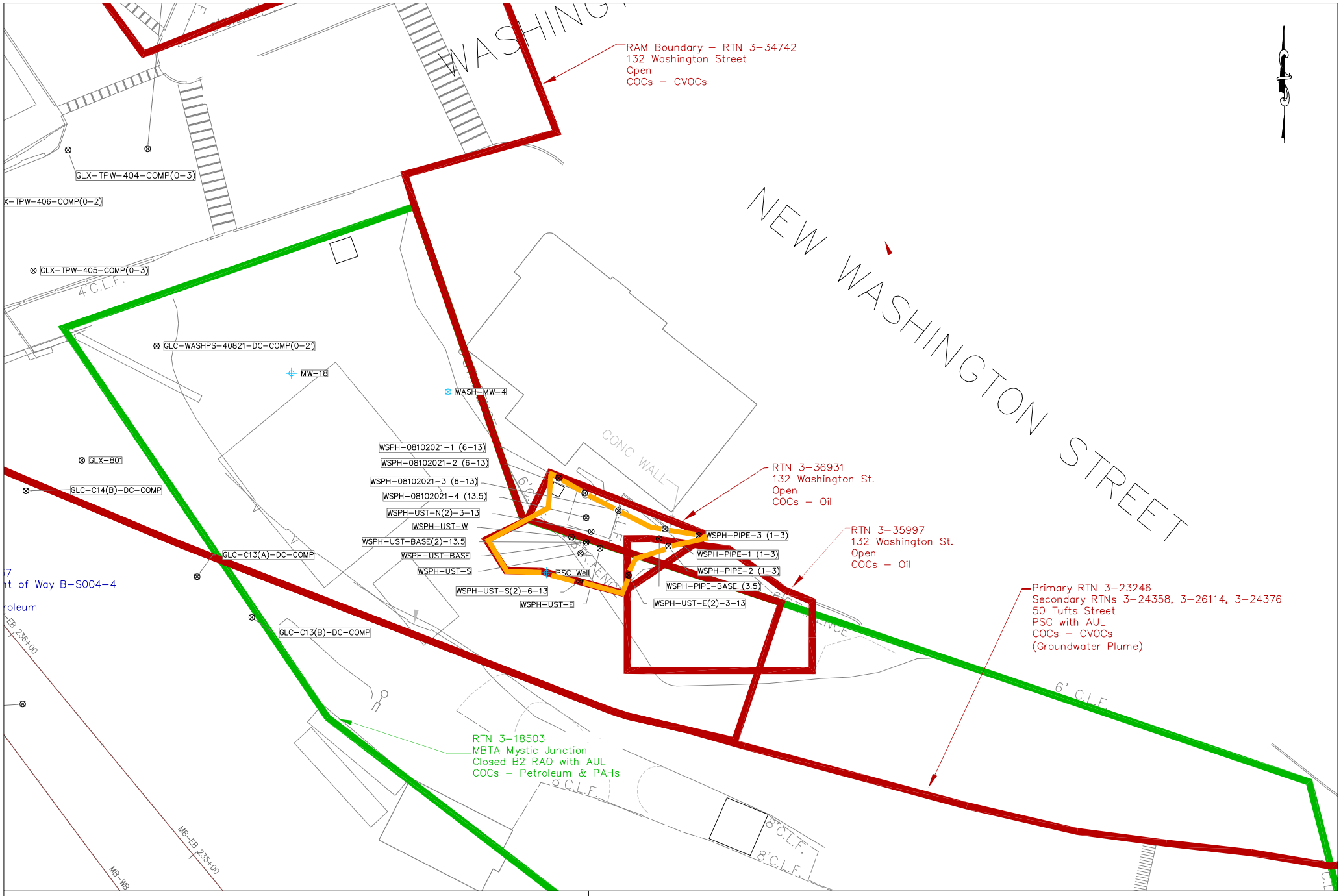
I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By:  11/15/2021
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Figure 1 – Stockpile Generation Location
Figure 2 – Stockpile Staging Location
Table 1 – Summary of Soil Sample Analytical Results
Appendix A – Laboratory Report
Appendix B – July 2021 Contained-In

FIGURES

Figure 1 - Generation Location



GLXC MASTER CAD FILE – ALL
BORINGS/MONITORING WELLS 08/30/2021

0 10 20 Feet

LEGEND

- BORING
- WELL
- RTN Closed with AUL
- RTN Closed
- RTN Open

Stockpile Generation Area

Figure 2: Stockpile Location

Legend

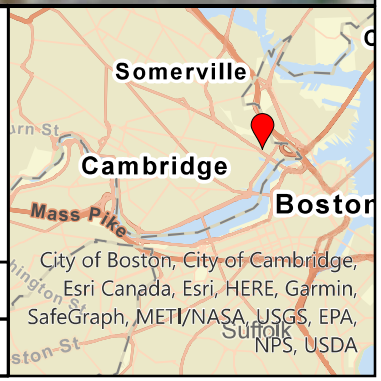
Stockpile relevant to Contained-In Determination

0 25 50 Feet

1 inch =50 ft

DRAWN BY: JLD | CHECKED BY: LV

DATE: 9/3/2021


Somerville
Cambridge
Boston
Mass Pike
City of Boston, City of Cambridge, Esri Canada, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

TABLES

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
October 7, 2021

						LOCATION	GLC-NP-306A-18-C-DC-VOC-7		
						SAMPLING DATE	10/7/2021		
						LAB SAMPLE ID	L2154830-06		
						SAMPLE TYPE	SOIL		
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results		Qual
MCP Volatile Organics by EPA 5035									
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.27		U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.054		U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.081		U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.054		U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.054		U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.054		U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.054		U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.05		
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.027		U
	Trichlorofluoromethane	75-69-4				mg/kg	0.22		U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.054		U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.027		U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.027		U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.054		U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.027		U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.027		U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.027		U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.22		U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.027		U
	Benzene	71-43-2	2	40	40	mg/kg	0.18		
	Toluene	108-88-3	30	500	500	mg/kg	0.32		
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.41		
	Chloromethane	74-87-3				mg/kg	0.22		U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.11		U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.054		U
	Chloroethane	75-00-3				mg/kg	0.11		U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.054		U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.081		U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.027		U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.11		U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.11		U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.11		U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.11		U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.49		
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.19		
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.68		
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.054		U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.054		U
	Dibromomethane	74-95-3				mg/kg	0.11		U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.11		U
	Styrene	100-42-5	3	4	70	mg/kg	0.12		
	Dichlorodifluoromethane	75-71-8				mg/kg	0.54		U
	Acetone	67-64-1	6	50	400	mg/kg	0.54		U
	Carbon disulfide	75-15-0				mg/kg	0.54		U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.54		U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.54		U
	2-Hexanone	591-78-6				mg/kg	0.54		U
	Bromochloromethane	74-97-5				mg/kg	0.11		U
	Tetrahydrofuran	109-99-9				mg/kg	0.22		U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.11		U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.054		U
	1,3-Dichloropropane	142-28-9				mg/kg	0.11		U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.027		U
	Bromobenzene	108-86-1				mg/kg	0.11		U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.054		U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.054		U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.11		U
	o-Chlorotoluene	95-49-8				mg/kg	0.11		U
	p-Chlorotoluene	106-43-4				mg/kg	0.11		U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.16		U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.22		U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.069		
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.16		
	Naphthalene	91-20-3	4	20	500	mg/kg	5.4		
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.057		
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.11		U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.11		U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.36		
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.4		
	Diethyl ether	60-29-7				mg/kg	0.11		U
	Diisopropyl Ether	108-20-3				mg/kg	0.11		U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.11		U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.11		U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	4.3		U
	Total VOCs					mg/kg	8.206		

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A
LAB REPORTS

ANALYTICAL REPORT

Lab Number:	L2154830
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	3101420002 PH25 TK20
Report Date:	10/14/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
~~L2154830-01~~	~~GLC-NP-306A-18-A-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~10/07/21 13:00~~	~~10/07/21~~
~~L2154830-02~~	~~GLC-NP-306A-18-A-DC-VOC-2~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~10/07/21 13:00~~	~~10/07/21~~
~~L2154830-03~~	~~GLC-NP-306A-18-B-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~10/07/21 13:20~~	~~10/07/21~~
~~L2154830-04~~	~~GLC-NP-306A-18-B-DC-VOC-4~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~10/07/21 13:20~~	~~10/07/21~~
~~L2154830-05~~	~~GLC-NP-306A-18-C-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~10/07/21 13:40~~	~~10/07/21~~
L2154830-06	GLC-NP-306A-18-C-DC-VOC-7	SOIL	SOMERVILLE, MA	10/07/21 13:40	10/07/21

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2154830
Project Number:	3101420002 PH25 TK20	**Report Date:**	10/14/21

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2154830
Project Number:	3101420002 PH25 TK20	**Report Date:**	10/14/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2154830
Project Number:	3101420002 PH25 TK20	**Report Date:**	10/14/21

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2154830-02 and -04: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L2154830-06: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of target compounds in the sample.

In reference to question G:

L2154830-02, -04, and -06: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG1558490-3 LCS recoveries, associated with L2154830-02, -04, and -06, are below the individual acceptance criteria for acetone (65%) and 2-hexanone (66%), but within the overall method allowances. The results of the associated samples are reported; however, all results for these compounds are considered to have a potentially low bias.

L2154830-02, -04, and -06: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0039)

Average Response Factor: 1,4-dioxane

Verification: acetone (64%)

L2154830-02, -04, and -06: The associated continuing calibration standard is outside the acceptance criteria

Case Narrative (continued)

for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Semivolatile Organics

L2154830-01D and -05D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L2154830-03D: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L2154830-01D, -03D, and -05D: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L2154830-01D: The surrogate recovery is outside the individual acceptance criteria for nitrobenzene-d5 (22%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

L2154830-03D: The surrogate recovery is outside the individual acceptance criteria for nitrobenzene-d5 (29%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

L2154830-05D: The surrogate recovery is outside the individual acceptance criteria for nitrobenzene-d5 (11%), but within the overall method allowances. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

Pesticides

L2154830-01D, -03D, and -05D: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

L2154830-01D, -03D, and -05D: One or more of the target analytes did not achieve the requested CAM reporting limits.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2154830
Project Number:	3101420002 PH25 TK20	**Report Date:**	10/14/21

Case Narrative (continued)

In reference to question H:

L2154830-05D: The surrogate recoveries are outside the acceptance criteria for decachlorobiphenyl (350%, 425%); however, the sample was not re-extracted due to coelution with obvious interferences.

Non MCP Related Narratives

TPH

L2154830-01D, -03D, and -05D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 10/14/21

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 High - Westborough Lab								
8260C	Batch QC	WG1558490-3	Acetone	LCS	65	70-130	02,04,06	potential low bias
8260C	Batch QC	WG1558490-3	2-Hexanone	LCS	66	70-130	02,04,06	potential low bias
MCP Semivolatile Organics - Westborough Lab								
8270D	GLC-NP-306A-18-A-DC-COMP	L2154830-01 D	Nitrobenzene-d5	Surrogate	22	30-130	-	potential low bias
8270D	GLC-NP-306A-18-B-DC-COMP	L2154830-03 D	Nitrobenzene-d5	Surrogate	29	30-130	-	potential low bias
8270D	GLC-NP-306A-18-C-DC-COMP	L2154830-05 D	Nitrobenzene-d5	Surrogate	11	30-130	-	potential low bias
MCP Organochlorine Pesticides - Westborough Lab								
8081B	GLC-NP-306A-18-C-DC-COMP	L2154830-05 D	Decachlorobiphenyl (A)	Surrogate	350	30-150	-	potential high bias
8081B	GLC-NP-306A-18-C-DC-COMP	L2154830-05 D	Decachlorobiphenyl (B)	Surrogate	425	30-150	-	potential high bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

SAMPLE RESULTS

Lab ID: L2154830-06
Client ID: GLC-NP-306A-18-C-DC-VOC-7
Sample Location: SOMERVILLE, MA

Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/13/21 12:12
Analyst: NLK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	270	--	1
1,1-Dichloroethane	ND		ug/kg	54	--	1
Chloroform	ND		ug/kg	81	--	1
Carbon tetrachloride	ND		ug/kg	54	--	1
1,2-Dichloropropane	ND		ug/kg	54	--	1
Dibromochloromethane	ND		ug/kg	54	--	1
1,1,2-Trichloroethane	ND		ug/kg	54	--	1
Tetrachloroethene	50		ug/kg	27	--	1
Chlorobenzene	ND		ug/kg	27	--	1
Trichlorofluoromethane	ND		ug/kg	220	--	1
1,2-Dichloroethane	ND		ug/kg	54	--	1
1,1,1-Trichloroethane	ND		ug/kg	27	--	1
Bromodichloromethane	ND		ug/kg	27	--	1
trans-1,3-Dichloropropene	ND		ug/kg	54	--	1
cis-1,3-Dichloropropene	ND		ug/kg	27	--	1
1,3-Dichloropropene, Total	ND		ug/kg	27	--	1
1,1-Dichloropropene	ND		ug/kg	27	--	1
Bromoform	ND		ug/kg	220	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	27	--	1
Benzene	180		ug/kg	27	--	1
Toluene	320		ug/kg	54	--	1
Ethylbenzene	410		ug/kg	54	--	1
Chloromethane	ND		ug/kg	220	--	1
Bromomethane	ND		ug/kg	110	--	1
Vinyl chloride	ND		ug/kg	54	--	1
Chloroethane	ND		ug/kg	110	--	1
1,1-Dichloroethene	ND		ug/kg	54	--	1
trans-1,2-Dichloroethene	ND		ug/kg	81	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

SAMPLE RESULTS

Lab ID: L2154830-06 Date Collected: 10/07/21 13:40

Client ID: GLC-NP-306A-18-C-DC-VOC-7 Date Received: 10/07/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	27	--	1
1,2-Dichlorobenzene	ND		ug/kg	110	--	1
1,3-Dichlorobenzene	ND		ug/kg	110	--	1
1,4-Dichlorobenzene	ND		ug/kg	110	--	1
Methyl tert butyl ether	ND		ug/kg	110	--	1
p/m-Xylene	490		ug/kg	110	--	1
o-Xylene	190		ug/kg	54	--	1
Xylenes, Total	680		ug/kg	54	--	1
cis-1,2-Dichloroethene	ND		ug/kg	54	--	1
1,2-Dichloroethene, Total	ND		ug/kg	54	--	1
Dibromomethane	ND		ug/kg	110	--	1
1,2,3-Trichloropropane	ND		ug/kg	110	--	1
Styrene	120		ug/kg	54	--	1
Dichlorodifluoromethane	ND		ug/kg	540	--	1
Acetone	ND		ug/kg	540	--	1
Carbon disulfide	ND		ug/kg	540	--	1
Methyl ethyl ketone	ND		ug/kg	540	--	1
Methyl isobutyl ketone	ND		ug/kg	540	--	1
2-Hexanone	ND		ug/kg	540	--	1
Bromochloromethane	ND		ug/kg	110	--	1
Tetrahydrofuran	ND		ug/kg	220	--	1
2,2-Dichloropropane	ND		ug/kg	110	--	1
1,2-Dibromoethane	ND		ug/kg	54	--	1
1,3-Dichloropropane	ND		ug/kg	110	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	27	--	1
Bromobenzene	ND		ug/kg	110	--	1
n-Butylbenzene	ND		ug/kg	54	--	1
sec-Butylbenzene	ND		ug/kg	54	--	1
tert-Butylbenzene	ND		ug/kg	110	--	1
o-Chlorotoluene	ND		ug/kg	110	--	1
p-Chlorotoluene	ND		ug/kg	110	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	160	--	1
Hexachlorobutadiene	ND		ug/kg	220	--	1
Isopropylbenzene	69		ug/kg	54	--	1
p-Isopropyltoluene	160		ug/kg	54	--	1
Naphthalene	5400		ug/kg	220	--	1
n-Propylbenzene	57		ug/kg	54	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

SAMPLE RESULTS

Lab ID: L2154830-06 Date Collected: 10/07/21 13:40

Client ID: GLC-NP-306A-18-C-DC-VOC-7 Date Received: 10/07/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	110	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	110	--	1
1,3,5-Trimethylbenzene	360		ug/kg	110	--	1
1,2,4-Trimethylbenzene	400		ug/kg	110	--	1
Diethyl ether	ND		ug/kg	110	--	1
Diisopropyl Ether	ND		ug/kg	110	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	110	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	110	--	1
1,4-Dioxane	ND		ug/kg	4300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	103		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/13/21 11:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,04,06 Batch: WG1558490-5					
Methylene chloride	ND		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	25	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/13/21 11:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,04,06 Batch: WG1558490-5					
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/13/21 11:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,04,06 Batch: WG1558490-5					
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
Diethyl ether	ND		ug/kg	100	--
Diisopropyl Ether	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	4000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/14/21 08:45
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,04 Batch: WG1558675-5					
Methylene chloride	ND		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	25	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/14/21 08:45
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,04 Batch: WG1558675-5					
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20
Lab Number: L2154830
Report Date: 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/14/21 08:45
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,04 Batch: WG1558675-5					
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
Diethyl ether	ND		ug/kg	100	--
Diisopropyl Ether	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	4000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	107		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02,04,06 Batch: WG1558490-3 WG1558490-4								
Methylene chloride	94		96		70-130	2		20
1,1-Dichloroethane	87		87		70-130	0		20
Chloroform	85		86		70-130	1		20
Carbon tetrachloride	98		97		70-130	1		20
1,2-Dichloropropane	96		99		70-130	3		20
Dibromochloromethane	90		98		70-130	9		20
1,1,2-Trichloroethane	89		98		70-130	10		20
Tetrachloroethene	105		108		70-130	3		20
Chlorobenzene	96		100		70-130	4		20
Trichlorofluoromethane	95		95		70-130	0		20
1,2-Dichloroethane	87		90		70-130	3		20
1,1,1-Trichloroethane	94		93		70-130	1		20
Bromodichloromethane	81		83		70-130	2		20
trans-1,3-Dichloropropene	93		101		70-130	8		20
cis-1,3-Dichloropropene	96		100		70-130	4		20
1,1-Dichloropropene	95		96		70-130	1		20
Bromoform	84		93		70-130	10		20
1,1,2,2-Tetrachloroethane	81		92		70-130	13		20
Benzene	95		96		70-130	1		20
Toluene	96		99		70-130	3		20
Ethylbenzene	97		100		70-130	3		20
Chloromethane	84		82		70-130	2		20
Bromomethane	97		100		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 3101420002 PH25 TK20

Lab Number: L2154830

Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02,04,06 Batch: WG1558490-3 WG1558490-4								
Vinyl chloride	88		87		70-130	1		20
Chloroethane	74		72		70-130	3		20
1,1-Dichloroethene	86		86		70-130	0		20
trans-1,2-Dichloroethene	83		84		70-130	1		20
Trichloroethene	99		100		70-130	1		20
1,2-Dichlorobenzene	94		98		70-130	4		20
1,3-Dichlorobenzene	97		101		70-130	4		20
1,4-Dichlorobenzene	97		100		70-130	3		20
Methyl tert butyl ether	87		95		70-130	9		20
p/m-Xylene	94		96		70-130	2		20
o-Xylene	93		96		70-130	3		20
cis-1,2-Dichloroethene	85		87		70-130	2		20
Dibromomethane	82		86		70-130	5		20
1,2,3-Trichloropropane	89		99		70-130	11		20
Styrene	92		95		70-130	3		20
Dichlorodifluoromethane	86		86		70-130	0		20
Acetone	**65**	Q	73		70-130	12		20
Carbon disulfide	85		84		70-130	1		20
Methyl ethyl ketone	73		83		70-130	13		20
Methyl isobutyl ketone	78		90		70-130	14		20
2-Hexanone	**66**	Q	78		70-130	17		20
Bromochloromethane	84		84		70-130	0		20
Tetrahydrofuran	87		103		70-130	17		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02,04,06 Batch: WG1558490-3 WG1558490-4								
2,2-Dichloropropane	88		87		70-130	1		20
1,2-Dibromoethane	99		108		70-130	9		20
1,3-Dichloropropane	95		105		70-130	10		20
1,1,1,2-Tetrachloroethane	100		106		70-130	6		20
Bromobenzene	97		102		70-130	5		20
n-Butylbenzene	101		102		70-130	1		20
sec-Butylbenzene	100		102		70-130	2		20
tert-Butylbenzene	100		103		70-130	3		20
o-Chlorotoluene	96		114		70-130	17		20
p-Chlorotoluene	96		99		70-130	3		20
1,2-Dibromo-3-chloropropane	77		90		70-130	16		20
Hexachlorobutadiene	104		108		70-130	4		20
Isopropylbenzene	101		103		70-130	2		20
p-Isopropyltoluene	101		104		70-130	3		20
Naphthalene	90		101		70-130	12		20
n-Propylbenzene	99		101		70-130	2		20
1,2,3-Trichlorobenzene	92		101		70-130	9		20
1,2,4-Trichlorobenzene	95		101		70-130	6		20
1,3,5-Trimethylbenzene	99		102		70-130	3		20
1,2,4-Trimethylbenzene	98		101		70-130	3		20
Diethyl ether	82		87		70-130	6		20
Diisopropyl Ether	86		90		70-130	5		20
Ethyl-Tert-Butyl-Ether	92		97		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 3101420002 PH25 TK20

Lab Number: L2154830

Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02,04,06 Batch: WG1558490-3 WG1558490-4								
Tertiary-Amyl Methyl Ether	89		96		70-130	8		20
1,4-Dioxane	76		85		70-130	11		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		90		70-130
Toluene-d8	101		103		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	91		89		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02,04 Batch: WG1558675-3 WG1558675-4								
Methylene chloride	102		101		70-130	1		20
1,1-Dichloroethane	89		84		70-130	6		20
Chloroform	90		86		70-130	5		20
Carbon tetrachloride	104		98		70-130	6		20
1,2-Dichloropropane	99		97		70-130	2		20
Dibromochloromethane	100		99		70-130	1		20
1,1,2-Trichloroethane	95		96		70-130	1		20
Tetrachloroethene	112		108		70-130	4		20
Chlorobenzene	102		99		70-130	3		20
Trichlorofluoromethane	100		94		70-130	6		20
1,2-Dichloroethane	92		90		70-130	2		20
1,1,1-Trichloroethane	98		94		70-130	4		20
Bromodichloromethane	87		85		70-130	2		20
trans-1,3-Dichloropropene	98		102		70-130	4		20
cis-1,3-Dichloropropene	102		101		70-130	1		20
1,1-Dichloropropene	98		95		70-130	3		20
Bromoform	94		96		70-130	2		20
1,1,2,2-Tetrachloroethane	85		88		70-130	3		20
Benzene	99		96		70-130	3		20
Toluene	102		97		70-130	5		20
Ethylbenzene	104		98		70-130	6		20
Chloromethane	90		84		70-130	7		20
Bromomethane	101		96		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 02,04		Batch: WG1558675-3 WG1558675-4					
Vinyl chloride	93		87		70-130	7		20
Chloroethane	75		71		70-130	5		20
1,1-Dichloroethene	89		84		70-130	6		20
trans-1,2-Dichloroethene	88		83		70-130	6		20
Trichloroethene	101		97		70-130	4		20
1,2-Dichlorobenzene	101		100		70-130	1		20
1,3-Dichlorobenzene	106		102		70-130	4		20
1,4-Dichlorobenzene	104		102		70-130	2		20
Methyl tert butyl ether	89		94		70-130	5		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	99		95		70-130	4		20
cis-1,2-Dichloroethene	90		88		70-130	2		20
Dibromomethane	87		87		70-130	0		20
1,2,3-Trichloropropane	95		96		70-130	1		20
Styrene	98		95		70-130	3		20
Dichlorodifluoromethane	89		83		70-130	7		20
Acetone	73		75		70-130	3		20
Carbon disulfide	91		84		70-130	8		20
Methyl ethyl ketone	78		82		70-130	5		20
Methyl isobutyl ketone	83		93		70-130	11		20
2-Hexanone	78		80		70-130	3		20
Bromochloromethane	90		89		70-130	1		20
Tetrahydrofuran	92		97		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02,04 Batch: WG1558675-3 WG1558675-4								
2,2-Dichloropropane	94		88		70-130	7		20
1,2-Dibromoethane	102		106		70-130	4		20
1,3-Dichloropropane	100		101		70-130	1		20
1,1,1,2-Tetrachloroethane	108		104		70-130	4		20
Bromobenzene	104		102		70-130	2		20
n-Butylbenzene	108		102		70-130	6		20
sec-Butylbenzene	106		100		70-130	6		20
tert-Butylbenzene	108		103		70-130	5		20
o-Chlorotoluene	119		114		70-130	4		20
p-Chlorotoluene	105		100		70-130	5		20
1,2-Dibromo-3-chloropropane	87		90		70-130	3		20
Hexachlorobutadiene	112		107		70-130	5		20
Isopropylbenzene	107		102		70-130	5		20
p-Isopropyltoluene	109		104		70-130	5		20
Naphthalene	94		99		70-130	5		20
n-Propylbenzene	107		101		70-130	6		20
1,2,3-Trichlorobenzene	97		102		70-130	5		20
1,2,4-Trichlorobenzene	101		103		70-130	2		20
1,3,5-Trimethylbenzene	106		102		70-130	4		20
1,2,4-Trimethylbenzene	105		100		70-130	5		20
Diethyl ether	84		86		70-130	2		20
Diisopropyl Ether	87		87		70-130	0		20
Ethyl-Tert-Butyl-Ether	94		97		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 02,04		Batch: WG1558675-3 WG1558675-4					
Tertiary-Amyl Methyl Ether	90		93		70-130	3		20
1,4-Dioxane	83		88		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		92		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	91		93		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20
Lab Number: L2154830
Report Date: 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 10/11/21 23:34
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 10/08/21 17:47

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03,05 Batch: WG1556398-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 10/11/21 23:34
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 10/08/21 17:47

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03,05 Batch: WG1556398-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 10/11/21 23:34
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 10/08/21 17:47

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03,05 Batch: WG1556398-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	90		30-130
Phenol-d6	97		30-130
Nitrobenzene-d5	105		30-130
2-Fluorobiphenyl	87		30-130
2,4,6-Tribromophenol	68		30-130
4-Terphenyl-d14	87		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1556398-2 WG1556398-3								
Acenaphthene	66		76		40-140	14		30
1,2,4-Trichlorobenzene	66		72		40-140	9		30
Hexachlorobenzene	59		65		40-140	10		30
Bis(2-chloroethyl)ether	64		71		40-140	10		30
2-Chloronaphthalene	68		75		40-140	10		30
1,2-Dichlorobenzene	60		70		40-140	15		30
1,3-Dichlorobenzene	61		68		40-140	11		30
1,4-Dichlorobenzene	60		68		40-140	13		30
3,3'-Dichlorobenzidine	56		58		40-140	4		30
2,4-Dinitrotoluene	80		87		40-140	8		30
2,6-Dinitrotoluene	76		79		40-140	4		30
Azobenzene	76		83		40-140	9		30
Fluoranthene	71		76		40-140	7		30
4-Bromophenyl phenyl ether	64		68		40-140	6		30
Bis(2-chloroisopropyl)ether	43		50		40-140	15		30
Bis(2-chloroethoxy)methane	67		76		40-140	13		30
Hexachlorobutadiene	63		68		40-140	8		30
Hexachloroethane	64		72		40-140	12		30
Isophorone	74		83		40-140	11		30
Naphthalene	65		73		40-140	12		30
Nitrobenzene	77		85		40-140	10		30
Bis(2-ethylhexyl)phthalate	81		90		40-140	11		30
Butyl benzyl phthalate	78		83		40-140	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1556398-2 WG1556398-3								
Di-n-butylphthalate	79		83		40-140	5		30
Di-n-octylphthalate	82		89		40-140	8		30
Diethyl phthalate	76		82		40-140	8		30
Dimethyl phthalate	75		82		40-140	9		30
Benzo(a)anthracene	70		75		40-140	7		30
Benzo(a)pyrene	70		74		40-140	6		30
Benzo(b)fluoranthene	69		74		40-140	7		30
Benzo(k)fluoranthene	70		74		40-140	6		30
Chrysene	70		76		40-140	8		30
Acenaphthylene	72		79		40-140	9		30
Anthracene	69		75		40-140	8		30
Benzo(ghi)perylene	68		74		40-140	8		30
Fluorene	70		76		40-140	8		30
Phenanthrene	68		74		40-140	8		30
Dibenzo(a,h)anthracene	68		73		40-140	7		30
Indeno(1,2,3-cd)pyrene	69		74		40-140	7		30
Pyrene	70		75		40-140	7		30
Aniline	53		58		40-140	9		30
4-Chloroaniline	49		54		40-140	10		30
Dibenzofuran	69		76		40-140	10		30
2-Methylnaphthalene	66		75		40-140	13		30
Acetophenone	72		80		40-140	11		30
2,4,6-Trichlorophenol	71		78		30-130	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1556398-2 WG1556398-3								
2-Chlorophenol	68		75		30-130	10		30
2,4-Dichlorophenol	73		83		30-130	13		30
2,4-Dimethylphenol	78		87		30-130	11		30
2-Nitrophenol	74		82		30-130	10		30
4-Nitrophenol	84		92		30-130	9		30
2,4-Dinitrophenol	38		51		30-130	29		30
Pentachlorophenol	63		69		30-130	9		30
Phenol	73		80		30-130	9		30
2-Methylphenol	71		80		30-130	12		30
3-Methylphenol/4-Methylphenol	74		82		30-130	10		30
2,4,5-Trichlorophenol	72		79		30-130	9		30
Pyridine	54		58		30-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	71		77		30-130
Phenol-d6	75		83		30-130
Nitrobenzene-d5	79		87		30-130
2-Fluorobiphenyl	72		76		30-130
2,4,6-Tribromophenol	61		64		30-130
4-Terphenyl-d14	72		74		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 10/09/21 10:06
Analyst: SC

Extraction Method: EPA 3546
Extraction Date: 10/08/21 18:35

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01,03,05 Batch: WG1556405-1					
TPH (C10-C36)	ND		ug/kg	31600	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	89		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 3101420002 PH25 TK20

Lab Number: L2154830

Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1556405-2								
TPH (C10-C36)	95		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	91				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 10/13/21 10:29
Analyst: CW

Extraction Method: EPA 3540C
Extraction Date: 10/12/21 09:50
Cleanup Method: EPA 3665A
Cleanup Date: 10/13/21
Cleanup Method: EPA 3660B
Cleanup Date: 10/13/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01,03,05 Batch: WG1557454-1						
Aroclor 1016	ND		ug/kg	32.2	--	A
Aroclor 1221	ND		ug/kg	32.2	--	A
Aroclor 1232	ND		ug/kg	32.2	--	A
Aroclor 1242	ND		ug/kg	32.2	--	A
Aroclor 1248	ND		ug/kg	32.2	--	A
Aroclor 1254	ND		ug/kg	32.2	--	A
Aroclor 1260	ND		ug/kg	32.2	--	A
Aroclor 1262	ND		ug/kg	32.2	--	A
Aroclor 1268	ND		ug/kg	32.2	--	A
PCBs, Total	ND		ug/kg	32.2	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	78		30-150	B
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	69		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1557454-2 WG1557454-3									
Aroclor 1016	81		88		40-140	8		30	A
Aroclor 1260	84		91		40-140	8		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		67		30-150	B
Decachlorobiphenyl	75		80		30-150	B
2,4,5,6-Tetrachloro-m-xylene	59		66		30-150	A
Decachlorobiphenyl	65		69		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20
Lab Number: L2154830
Report Date: 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 10/09/21 16:34
Analyst: SDC

Extraction Method: EPA 3546
Extraction Date: 10/08/21 22:11
Cleanup Method: EPA 3620B
Cleanup Date: 10/09/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01,03,05 Batch: WG1556430-1						
Delta-BHC	ND		ug/kg	1.58	--	A
Lindane	ND		ug/kg	0.525	--	A
Alpha-BHC	ND		ug/kg	0.656	--	A
Beta-BHC	ND		ug/kg	1.58	--	A
Heptachlor	ND		ug/kg	0.788	--	A
Aldrin	ND		ug/kg	1.58	--	A
Heptachlor epoxide	ND		ug/kg	2.95	--	A
Endrin	ND		ug/kg	0.656	--	A
Endrin ketone	ND		ug/kg	1.58	--	A
Dieldrin	ND		ug/kg	0.985	--	A
4,4'-DDE	ND		ug/kg	1.58	--	A
4,4'-DDD	ND		ug/kg	1.58	--	A
4,4'-DDT	ND		ug/kg	2.95	--	A
Endosulfan I	ND		ug/kg	1.58	--	A
Endosulfan II	ND		ug/kg	1.58	--	A
Endosulfan sulfate	ND		ug/kg	0.656	--	A
Methoxychlor	ND		ug/kg	2.95	--	A
Chlordane	ND		ug/kg	13.1	--	A
Hexachlorobenzene	ND		ug/kg	1.58	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	A
Decachlorobiphenyl	113		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20
Lab Number: L2154830
Report Date: 10/14/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 10/11/21 11:02
Analyst: SDC

Extraction Method: EPA 8151A
Extraction Date: 10/09/21 03:27

Methylation Date: 10/11/21 07:35

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 01,03,05 Batch: WG1556470-1						
MCPP	ND		ug/kg	3200	--	A
MCPA	ND		ug/kg	3200	--	A
Dalapon	ND		ug/kg	32	--	A
Dicamba	ND		ug/kg	32	--	A
Dichloroprop	ND		ug/kg	32	--	A
2,4-D	ND		ug/kg	32	--	A
2,4-DB	ND		ug/kg	32	--	A
2,4,5-T	ND		ug/kg	32	--	A
2,4,5-TP (Silvex)	ND		ug/kg	32	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	86		30-150	A
DCAA	81		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1556430-2 WG1556430-3									
Delta-BHC	80		84		40-140	5		30	A
Lindane	85		87		40-140	2		30	A
Alpha-BHC	79		84		40-140	6		30	A
Beta-BHC	88		84		40-140	5		30	A
Heptachlor	91		97		40-140	6		30	A
Aldrin	78		83		40-140	6		30	A
Heptachlor epoxide	72		77		40-140	7		30	A
Endrin	91		101		40-140	10		30	A
Endrin ketone	78		81		40-140	4		30	A
Dieldrin	93		100		40-140	7		30	A
4,4'-DDE	80		90		40-140	12		30	A
4,4'-DDD	96		104		40-140	8		30	A
4,4'-DDT	97		105		40-140	8		30	A
Endosulfan I	80		84		40-140	5		30	A
Endosulfan II	90		98		40-140	9		30	A
Endosulfan sulfate	89		95		40-140	7		30	A
Methoxychlor	90		94		40-140	4		30	A
Hexachlorobenzene	81		86		40-140	6		30	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1556430-2 WG1556430-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		83		30-150	A
Decachlorobiphenyl	113		122		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		70		30-150	B
Decachlorobiphenyl	78		84		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1556470-2 WG1556470-3									
MCPP	90		86		40-140	5		30	A
MCPA	73		76		40-140	4		30	A
Dalapon	73		75		40-140	3		30	A
Dicamba	79		81		40-140	3		30	A
Dichloroprop	86		91		40-140	6		30	A
2,4-D	81		79		40-140	3		30	A
2,4-DB	62		76		40-140	20		30	A
2,4,5-T	82		81		40-140	1		30	A
2,4,5-TP (Silvex)	84		81		40-140	4		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	84		85		30-150	A
DCAA	82		82		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03,05 Batch: WG1556301-1										
Antimony, Total	ND		mg/kg	2.00	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Arsenic, Total	ND		mg/kg	0.400	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Barium, Total	ND		mg/kg	0.400	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Beryllium, Total	ND		mg/kg	0.200	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Cadmium, Total	ND		mg/kg	0.400	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Chromium, Total	ND		mg/kg	0.400	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Lead, Total	ND		mg/kg	2.00	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Nickel, Total	ND		mg/kg	1.00	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Selenium, Total	ND		mg/kg	2.00	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Silver, Total	ND		mg/kg	0.400	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Thallium, Total	ND		mg/kg	2.00	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Vanadium, Total	ND		mg/kg	0.400	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL
Zinc, Total	ND		mg/kg	2.00	--	1	10/08/21 21:29	10/10/21 15:43	97,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03,05 Batch: WG1556304-1										
Mercury, Total	ND		mg/kg	0.083	--	1	10/08/21 22:35	10/09/21 14:27	97,7471B	NB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 3101420002 PH25 TK20

Lab Number: L2154830

Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03,05 Batch: WG1556301-2 WG1556301-3 SRM Lot Number: D109-540								
Antimony, Total	110		115		19-250	4		30
Arsenic, Total	91		94		70-130	3		30
Barium, Total	85		86		75-125	1		30
Beryllium, Total	86		96		75-125	11		30
Cadmium, Total	86		93		75-125	8		30
Chromium, Total	85		90		70-130	6		30
Lead, Total	85		86		72-128	1		30
Nickel, Total	85		92		70-130	8		30
Selenium, Total	96		99		68-132	3		30
Silver, Total	89		92		68-131	3		30
Thallium, Total	83		88		68-131	6		30
Vanadium, Total	85		88		59-141	3		30
Zinc, Total	87		90		70-130	3		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03,05 Batch: WG1556304-2 WG1556304-3 SRM Lot Number: D109-540								
Mercury, Total	102		92		60-140	10		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

SAMPLE RESULTS

Lab ID: L2154830-06
Client ID: GLC-NP-306A-18-C-DC-VOC-7
Sample Location: SOMERVILLE, MA

Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.9		%	0.100	NA	1	-	10/08/21 13:16	121,2540G	RI

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2154830

Project Number: 3101420002 PH25 TK20 **Report Date:** 10/14/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03,05 Batch: WG1556226-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	10/13/21 04:40	10/13/21 06:39	125,7.3	CS
General Chemistry - Westborough Lab for sample(s): 01,03,05 Batch: WG1556227-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	10/13/21 04:40	10/13/21 07:14	125,7.3	CS

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 3101420002 PH25 TK20

Lab Number: L2154830

Report Date: 10/14/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1556226-2								
Sulfide, Reactive	101		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1556227-2								
Cyanide, Reactive	98		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1557750-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1557811-1								
Specific Conductance	101		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 3101420002 PH25 TK20

Lab Number: L2154830

Report Date: 10/14/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,05 QC Batch ID: WG1556226-3 QC Sample: L2154830-01 Client ID: GLC-NP-306A-18-A-DC-COMP						
Sulfide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01,03,05 QC Batch ID: WG1556227-3 QC Sample: L2154830-01 Client ID: GLC-NP-306A-18-A-DC-COMP						
Cyanide, Reactive	ND	ND	mg/kg	NC		40

Project Name: MBTA GLX DISPOSAL SAMPLING
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Lab Number: L2154830
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Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154830-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.9	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2154830-01B	Glass 250ml/8oz unpreserved	A	NA		2.9	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8151-10(14),MCP-8081-10(14),MCP-8270-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2154830-02A	Vial MeOH preserved	A	NA		2.9	Y	Absent		MCP-8260HLG-10(14)
L2154830-02B	Vial NaHSO4 preserved	A	NA		2.9	Y	Absent		MCP-8260HLG-10(14)
L2154830-02C	Vial NaHSO4 preserved	A	NA		2.9	Y	Absent		MCP-8260HLG-10(14)
L2154830-02D	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		TS(7)
L2154830-03A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.9	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2154830-03B	Glass 250ml/8oz unpreserved	A	NA		2.9	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8151-10(14),MCP-8081-10(14),MCP-8270-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2154830-04A	Vial MeOH preserved	A	NA		2.9	Y	Absent		MCP-8260HLG-10(14)
L2154830-04B	Vial NaHSO4 preserved	A	NA		2.9	Y	Absent		MCP-8260HLG-10(14)
L2154830-04C	Vial NaHSO4 preserved	A	NA		2.9	Y	Absent		MCP-8260HLG-10(14)
L2154830-04D	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 3101420002 PH25 TK20

Lab Number: L2154830
Report Date: 10/14/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154830-05A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.9	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2154830-05B	Glass 250ml/8oz unpreserved	A	NA		2.9	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2154830-06A	Vial MeOH preserved	A	NA		2.9	Y	Absent		MCP-8260HLG-10(14)
L2154830-06B	Vial NaHSO4 preserved	A	NA		2.9	Y	Absent		MCP-8260HLG-10(14)
L2154830-06C	Vial NaHSO4 preserved	A	NA		2.9	Y	Absent		MCP-8260HLG-10(14)
L2154830-06D	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2154830
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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

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Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

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REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 10/7/21 | ALPHA Job #: L2154830

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: TRC Environmental Corp
Address: 2 Liberty Square
Boston, MA 02109
Phone: 617-476-1303
Fax:
Email: RNiles@trccompanies.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: MBTA GLX Disposal Sampling
Project Location: Somerville, MA
Project #: ~~310142.0002.0000 Phase 3 Task4~~ 310142.0002 Ph.25 T.20
Project Manager: Ryan Niles
ALPHA Quote #: 7623R1

Turn-Around Time

☒ ~~Standard~~ ☒ Rush (ONLY IF PRE-APPROVED)
5 Day TAT
Due Date: Time:

Report Information – Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: ~~165723~~ 70083

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1; <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, lvolk@"".com, lnakolan@"".com, bayres@"".com
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first.

ANALYSIS

SAMPLE HANDLING
Filtration: ☐ Done ☒ Not Needed ☐ Lab to do
Preservation: ☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides	TOTAL # BOTTLES
54830-01	GLC-NP-306A-18-A-DC-COMP	10/7/21	13:00	Soil		☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
-02	GLC-NP-306A-18-A-DC-VOC-2		13:00			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-03	GLC-NP-306A-18-B-DC-COMP		13:20			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
-04	GLC-NP-306A-18-B-DC-VOC-4		13:20			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-05	GLC-NP-306A-18-C-DC-COMP		13:40			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
-06	GLC-NP-306A-18-C-DC-VOC-7		13:40			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Container Type	V	V	A	A	A	A	A	A	A	A	A	A
Preservative	F	G	A	A	A	A	A	A	A	A	A	A

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Jennifer Simpson	10/7/21 15:00	W. Daniele	10/7/21
W. Daniele	10/7/21 18:30		10/7/21 18:30

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2154830
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 3101420002 PH25 TK20
Lab Sample ID	: WG1558490-5	**Lab File ID**	: V27211013A06
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 10/13/21 11:11

Client Sample No.	Lab Sample ID	Analysis Date
WG1558490-3LCS	WG1558490-3	10/13/21 09:28
WG1558490-4LCSD	WG1558490-4	10/13/21 09:49
GLC-NP-306A-18-A-DC-VOC-2	L2154830-02	10/13/21 11:31
GLC-NP-306A-18-B-DC-VOC-4	L2154830-04	10/13/21 11:52
GLC-NP-306A-18-C-DC-VOC-7	L2154830-06	10/13/21 12:12

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2154830
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 3101420002 PH25 TK20
Lab Sample ID	: WG1558675-5	**Lab File ID**	: V27211014A04
Instrument ID	: VOA127		
Matrix	: SOIL	**Analysis Date**	: 10/14/21 08:45

Client Sample No.	Lab Sample ID	Analysis Date
WG1558675-3LCS	WG1558675-3	10/14/21 07:43
WG1558675-4LCSD	WG1558675-4	10/14/21 08:04
GLC-NP-306A-18-B-DC-VOC-4	L2154830-04D	10/14/21 09:25
GLC-NP-306A-18-A-DC-VOC-2	L2154830-02D	10/14/21 09:46

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2154830		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 3101420002 PH25 TK20		
Instrument ID	: VOA127	**Calibration Date**	: 10/13/21 09:28		
Lab File ID	: V27211013A01	**Init. Calib. Date(s)**	: 10/05/21	10/05/21	
Sample No	: WG1558490-2	**Init. Calib. Times**	: 20:25	23:08	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	75	0
Dichlorodifluoromethane	0.333	0.288	-	13.5	20	63	0
Chloromethane	0.679	0.571	-	15.9	20	65	0
Vinyl chloride	0.38	0.335	-	11.8	20	64	0
Bromomethane	40	38.979	-	2.6	20	66	0
Chloroethane	0.264	0.195	-	26.1*	20	63	0
Trichlorofluoromethane	0.422	0.403	-	4.5	20	68	0
Ethyl ether	0.17	0.14	-	17.6	20	62	0
1,1-Dichloroethene	0.276	0.237	-	14.1	20	66	0
Carbon disulfide	0.82	0.698	-	14.9	20	62	0
Freon-113	0.225	0.215	-	4.4	20	68	0
Methylene chloride	40	37.626	-	5.9	20	65	0
Acetone	40	25.983	-	35*	20	55	0
trans-1,2-Dichloroethene	0.308	0.255	-	17.2	20	67	0
Methyl acetate	0.245	0.169	-	31*	20	53	0
Methyl tert-butyl ether	0.707	0.618	-	12.6	20	64	0
tert-Butyl alcohol	0.047	0.03*	-	36.2*	20	49	.01
Diisopropyl ether	0.935	0.805	-	13.9	20	63	0
1,1-Dichloroethane	0.641	0.555	-	13.4	20	68	0
Halothane	0.208	0.19	-	8.7	20	67	0
Acrylonitrile	0.137	0.103	-	24.8*	20	58	0
Ethyl tert-butyl ether	0.845	0.782	-	7.5	20	67	0
Vinyl acetate	0.685	0.549	-	19.9	20	57	0
cis-1,2-Dichloroethene	0.359	0.306	-	14.8	20	67	0
2,2-Dichloropropane	0.474	0.418	-	11.8	20	67	-.01
Bromochloromethane	0.175	0.148	-	15.4	20	65	0
Cyclohexane	0.528	0.518	-	1.9	20	66	0
Chloroform	0.578	0.49	-	15.2	20	67	0
Ethyl acetate	0.322	0.237	-	26.4*	20	56	0
Carbon tetrachloride	0.372	0.363	-	2.4	20	68	0
Tetrahydrofuran	40	34.744	-	13.1	20	59	0
Dibromofluoromethane	0.304	0.276	-	9.2	20	71	0
1,1,1-Trichloroethane	0.45	0.424	-	5.8	20	70	0
2-Butanone	0.207	0.15	-	27.5*	20	60	0
1,1-Dichloropropene	40	38.066	-	4.8	20	71	0
Benzene	1.061	1.007	-	5.1	20	69	0
tert-Amyl methyl ether	0.666	0.59	-	11.4	20	66	0
1,2-Dichloroethane-d4	0.337	0.299	-	11.3	20	69	-.01
1,2-Dichloroethane	0.419	0.366	-	12.6	20	64	0
Methyl cyclohexane	0.439	0.406	-	7.5	20	68	0
Trichloroethene	0.273	0.27	-	1.1	20	73	0
Dibromomethane	0.188	0.154	-	18.1	20	64	0
1,2-Dichloropropane	0.301	0.29	-	3.7	20	67	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2154830		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 3101420002 PH25 TK20		
Instrument ID	: VOA127	**Calibration Date**	: 10/13/21 09:28		
Lab File ID	: V27211013A01	**Init. Calib. Date(s)**	: 10/05/21	10/05/21	
Sample No	: WG1558490-2	**Init. Calib. Times**	: 20:25	23:08	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.416	0.335	-	19.5	20	63	0
1,4-Dioxane	0.00361	0.00276*	-	23.5*	20	57	0
cis-1,3-Dichloropropene	0.404	0.387	-	4.2	20	65	0
Chlorobenzene-d5	1	1	-	0	20	73	0
Toluene-d8	1.308	1.322	-	-1.1	20	74	0
Toluene	0.893	0.857	-	4	20	69	0
4-Methyl-2-pentanone	0.146	0.114	-	21.9*	20	57	0
Tetrachloroethene	0.34	0.356	-	-4.7	20	71	0
trans-1,3-Dichloropropene	0.462	0.431	-	6.7	20	65	0
Ethyl methacrylate	0.471	0.355	-	24.6*	20	58	0
1,1,2-Trichloroethane	0.233	0.208	-	10.7	20	65	0
Chlorodibromomethane	0.322	0.29	-	9.9	20	63	0
1,3-Dichloropropane	0.469	0.445	-	5.1	20	66	0
1,2-Dibromoethane	0.264	0.262	-	0.8	20	67	0
2-Hexanone	0.315	0.208	-	34*	20	53	0
Chlorobenzene	0.973	0.935	-	3.9	20	68	0
Ethylbenzene	1.708	1.654	-	3.2	20	68	0
1,1,1,2-Tetrachloroethane	0.299	0.298	-	0.3	20	68	0
p/m Xylene	0.703	0.661	-	6	20	68	0
o Xylene	0.678	0.631	-	6.9	20	67	0
Styrene	1.159	1.061	-	8.5	20	66	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	72	0
Bromoform	0.368	0.31	-	15.8	20	57	0
Isopropylbenzene	3.057	3.083	-	-0.9	20	69	0
4-Bromofluorobenzene	0.947	0.93	-	1.8	20	71	0
Bromobenzene	0.747	0.724	-	3.1	20	68	0
n-Propylbenzene	3.7	3.671	-	0.8	20	67	0
1,4-Dichlorobutane	1.195	1.026	-	14.1	20	61	0
1,1,2,2-Tetrachloroethane	0.653	0.527	-	19.3	20	59	0
4-Ethyltoluene	3.165	3.144	-	0.7	20	68	0
2-Chlorotoluene	2.285	2.203	-	3.6	20	67	0
1,3,5-Trimethylbenzene	2.789	2.752	-	1.3	20	68	0
1,2,3-Trichloropropane	0.532	0.472	-	11.3	20	61	0
trans-1,4-Dichloro-2-buten	0.251	0.175	-	30.3*	20	53	0
4-Chlorotoluene	2.377	2.282	-	4	20	67	0
tert-Butylbenzene	2.287	2.297	-	-0.4	20	68	0
1,2,4-Trimethylbenzene	2.793	2.734	-	2.1	20	67	0
sec-Butylbenzene	3.424	3.411	-	0.4	20	68	0
p-Isopropyltoluene	3.008	3.045	-	-1.2	20	68	0
1,3-Dichlorobenzene	1.509	1.46	-	3.2	20	67	0
1,4-Dichlorobenzene	1.528	1.488	-	2.6	20	68	0
p-Diethylbenzene	1.802	1.818	-	-0.9	20	68	0
n-Butylbenzene	2.623	2.641	-	-0.7	20	68	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2154830	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 3101420002 PH25 TK20	
Instrument ID	: VOA127		**Calibration Date**	: 10/13/21 09:28	
Lab File ID	: V27211013A01		**Init. Calib. Date(s)**	: 10/05/21	10/05/21
Sample No	: WG1558490-2		**Init. Calib. Times**	: 20:25	23:08
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichlorobenzene	1.447	1.359	-	6.1	20	66	0
1,2,4,5-Tetramethylbenzene	2.703	2.449	-	9.4	20	63	0
1,2-Dibromo-3-chloropropan	0.126	0.097	-	23*	20	54	0
1,3,5-Trichlorobenzene	1.114	1.093	-	1.9	20	68	0
Hexachlorobutadiene	0.522	0.544	-	-4.2	20	72	0
1,2,4-Trichlorobenzene	1.06	1.005	-	5.2	20	66	0
Naphthalene	2.629	2.378	-	9.5	20	65	0
1,2,3-Trichlorobenzene	1.006	0.93	-	7.6	20	65	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2154830		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 3101420002 PH25 TK20		
Instrument ID	: VOA127	**Calibration Date**	: 10/14/21 07:43		
Lab File ID	: V27211014A01	**Init. Calib. Date(s)**	: 10/05/21	10/05/21	
Sample No	: WG1558675-2	**Init. Calib. Times**	: 20:25	23:08	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	70	0
Dichlorodifluoromethane	0.333	0.296	-	11.1	20	61	0
Chloromethane	0.679	0.612	-	9.9	20	65	0
Vinyl chloride	0.38	0.352	-	7.4	20	62	0
Bromomethane	40	40.479	-	-1.2	20	63	0
Chloroethane	0.264	0.198	-	25*	20	60	0
Trichlorofluoromethane	0.422	0.421	-	0.2	20	66	0
Ethyl ether	0.17	0.143	-	15.9	20	59	0
1,1-Dichloroethene	0.276	0.245	-	11.2	20	64	0
Carbon disulfide	0.82	0.743	-	9.4	20	62	0
Freon-113	0.225	0.222	-	1.3	20	65	0
Methylene chloride	40	40.81	-	-2	20	65	0
Acetone	40	29.367	-	26.6*	20	57	0
trans-1,2-Dichloroethene	0.308	0.27	-	12.3	20	66	0
Methyl acetate	0.245	0.177	-	27.8*	20	52	0
Methyl tert-butyl ether	0.707	0.629	-	11	20	61	0
tert-Butyl alcohol	0.047	0.033*	-	29.8*	20	51	0
Diisopropyl ether	0.935	0.818	-	12.5	20	59	0
1,1-Dichloroethane	0.641	0.57	-	11.1	20	64	0
Halothane	0.208	0.199	-	4.3	20	65	-.01
Acrylonitrile	0.137	0.112	-	18.2	20	59	-.01
Ethyl tert-butyl ether	0.845	0.796	-	5.8	20	64	0
Vinyl acetate	0.685	0.599	-	12.6	20	57	0
cis-1,2-Dichloroethene	0.359	0.324	-	9.7	20	66	0
2,2-Dichloropropane	0.474	0.445	-	6.1	20	66	0
Bromochloromethane	0.175	0.157	-	10.3	20	65	0
Cyclohexane	0.528	0.526	-	0.4	20	62	0
Chloroform	0.578	0.519	-	10.2	20	66	0
Ethyl acetate	0.322	0.248	-	23*	20	54	0
Carbon tetrachloride	0.372	0.387	-	-4	20	68	0
Tetrahydrofuran	40	36.603	-	8.5	20	57	-.01
Dibromofluoromethane	0.304	0.278	-	8.6	20	66	0
1,1,1-Trichloroethane	0.45	0.442	-	1.8	20	68	0
2-Butanone	0.207	0.162	-	21.7*	20	61	0
1,1-Dichloropropene	40	39.125	-	2.2	20	68	0
Benzene	1.061	1.049	-	1.1	20	67	0
tert-Amyl methyl ether	0.666	0.6	-	9.9	20	62	0
1,2-Dichloroethane-d4	0.337	0.304	-	9.8	20	65	0
1,2-Dichloroethane	0.419	0.386	-	7.9	20	63	0
Methyl cyclohexane	0.439	0.412	-	6.2	20	64	0
Trichloroethene	0.273	0.277	-	-1.5	20	70	0
Dibromomethane	0.188	0.164	-	12.8	20	64	0
1,2-Dichloropropane	0.301	0.298	-	1	20	65	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2154830	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 3101420002 PH25 TK20	
Instrument ID	: VOA127		**Calibration Date**	: 10/14/21 07:43	
Lab File ID	: V27211014A01		**Init. Calib. Date(s)**	: 10/05/21	10/05/21
Sample No	: WG1558675-2		**Init. Calib. Times**	: 20:25	23:08
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.416	0.362	-	13	20	64	0
1,4-Dioxane	0.00361	0.00299*	-	17.2	20	57	0
cis-1,3-Dichloropropene	0.404	0.412	-	-2	20	64	0
Chlorobenzene-d5	1	1	-	0	20	68	0
Toluene-d8	1.308	1.321	-	-1	20	68	0
Toluene	0.893	0.914	-	-2.4	20	68	0
4-Methyl-2-pentanone	0.146	0.12	-	17.8	20	55	0
Tetrachloroethene	0.34	0.382	-	-12.4	20	70	0
trans-1,3-Dichloropropene	0.462	0.455	-	1.5	20	63	0
Ethyl methacrylate	0.471	0.367	-	22.1*	20	55	0
1,1,2-Trichloroethane	0.233	0.221	-	5.2	20	63	0
Chlorodibromomethane	0.322	0.321	-	0.3	20	64	0
1,3-Dichloropropane	0.469	0.467	-	0.4	20	64	0
1,2-Dibromoethane	0.264	0.27	-	-2.3	20	64	0
2-Hexanone	0.315	0.247	-	21.6*	20	58	0
Chlorobenzene	0.973	0.993	-	-2.1	20	67	0
Ethylbenzene	1.708	1.771	-	-3.7	20	67	0
1,1,1,2-Tetrachloroethane	0.299	0.324	-	-8.4	20	68	0
p/m Xylene	0.703	0.706	-	-0.4	20	67	0
o Xylene	0.678	0.672	-	0.9	20	66	0
Styrene	1.159	1.139	-	1.7	20	65	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	66	0
Bromoform	0.368	0.347	-	5.7	20	58	0
Isopropylbenzene	3.057	3.278	-	-7.2	20	67	0
4-Bromofluorobenzene	0.947	0.947	-	0	20	66	0
Bromobenzene	0.747	0.779	-	-4.3	20	67	0
n-Propylbenzene	3.7	3.954	-	-6.9	20	66	0
1,4-Dichlorobutane	1.195	1.089	-	8.9	20	60	0
1,1,2,2-Tetrachloroethane	0.653	0.556	-	14.9	20	57	0
4-Ethyltoluene	3.165	3.353	-	-5.9	20	66	0
2-Chlorotoluene	2.285	2.716	-	-18.9	20	75	0
1,3,5-Trimethylbenzene	2.789	2.971	-	-6.5	20	67	0
1,2,3-Trichloropropane	0.532	0.504	-	5.3	20	60	0
trans-1,4-Dichloro-2-buten	0.251	0.2	-	20.3*	20	56	0
4-Chlorotoluene	2.377	2.506	-	-5.4	20	67	0
tert-Butylbenzene	2.287	2.463	-	-7.7	20	67	0
1,2,4-Trimethylbenzene	2.793	2.946	-	-5.5	20	66	0
sec-Butylbenzene	3.424	3.642	-	-6.4	20	66	0
p-Isopropyltoluene	3.008	3.292	-	-9.4	20	68	0
1,3-Dichlorobenzene	1.509	1.602	-	-6.2	20	67	0
1,4-Dichlorobenzene	1.528	1.586	-	-3.8	20	67	0
p-Diethylbenzene	1.802	1.957	-	-8.6	20	67	0
n-Butylbenzene	2.623	2.841	-	-8.3	20	67	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2154830	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 3101420002 PH25 TK20	
Instrument ID	: VOA127		**Calibration Date**	: 10/14/21 07:43	
Lab File ID	: V27211014A01		**Init. Calib. Date(s)**	: 10/05/21	10/05/21
Sample No	: WG1558675-2		**Init. Calib. Times**	: 20:25	23:08
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichlorobenzene	1.447	1.46	-	-0.9	20	65	0
1,2,4,5-Tetramethylbenzene	2.703	2.264	-	16.2	20	53	0
1,2-Dibromo-3-chloropropan	0.126	0.11	-	12.7	20	56	0
1,3,5-Trichlorobenzene	1.114	1.185	-	-6.4	20	68	0
Hexachlorobutadiene	0.522	0.586	-	-12.3	20	71	0
1,2,4-Trichlorobenzene	1.06	1.073	-	-1.2	20	64	0
Naphthalene	2.629	2.473	-	5.9	20	61	0
1,2,3-Trichlorobenzene	1.006	0.974	-	3.2	20	62	0

*** Value outside of QC limits.**

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2154830
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 3101420002 PH25 TK20
Instrument ID	: PEST15	**Analysis Date**	: 10/09/21 08:18
PEM Standard	: R1488974-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	0	0
Endrin	770471655.64891	608062549.25
4,4'-DDD	1147232.3913	3637481.60213
4,4'-DDT	1395225772.2122	1047088783.25
Endrin Aldehyde	1049854.63343	1159719.35216
Endrin Ketone	3578906.46896	1502122.47433

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.597	0.436
DDT	0.0822	0.346

APPENDIX B

JULY 2021 CONTAINED-IN DETERMINATION

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

July 23, 2021

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Soils containing hazardous wastes from RTN 3-34742 were generated to facilitate construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station. RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The soil contained the listed hazardous waste(s) with waste code: U210, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results ppm	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
NP 314-15	GLC-NP-314-15-DC-VOC(4)	6/10/2021	Tetrachloroethene (127-18-4)	0.00041	1 ppm	10 ppm	30 ppm

Tetrachloroethene (PCE) - Analytical results equal 0.00041 mg/kg (below S-1 standards). The sample in the table above is included in this proposed contained-in determination.

Sample GLC-NP-314-15-DC-VOC(4) was collected from a stockpile generated from electrical manhole installations within the Washington Street Pump Station. A field geologist screened soils from eight discreet locations with a photoionization detector (PID) during sampling. As there were no total volatile organic compounds (TVOC) readings detected, the discrete location with the densest soils was collected as a grab sample for volatile organic compound (VOC) analysis. The sampled stockpile is covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for the stockpile is also tracked using a geographic information system (GIS) application created for the project. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil.

The sample included in this contained-in determination represents a volume of up to 340 cubic yards. Analytical data for the eligible sample is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The stockpile generation location is shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpile's staging location on site at the time of sampling is shown in **Figure 2**.

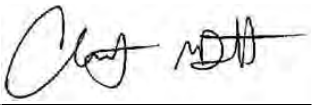
Soils from the Washington Street Pump Station were previously included in a Contained-In Determination that was submitted to MassDEP in December 2014 due to detectable PCE and trichloroethene (TCE) below Massachusetts Contingency Plan (MCP) S-1 standards. To meet current performance standards and to be consistent with on-going project soil management practices, this Contained-In Determination was prepared with updated characterization data to facilitate the disposal of soil. Stockpiles generated from manholes within the Washington Street Pump Station were also included in a Contained-In Determination that was submitted to MassDEP in September 2020. The PCE detections in samples GLC-WASHPS-40821-DC-VOC (1'-2') and GLC-WASHPS-041221-DC-VOC-6 are consistent PCE detections previously detected at the pump station. Soils from the MBTA ROW were also previously included in a Contained-In that was submitted to MassDEP in January 2020. Soils from the Washington Street Pump Station and an uncharacterized portion of the MBTA ROW were also previously included in a Contained-In that was submitted to MassDEP in June 2021. The June 2021 Contained-In Determination is attached as **Appendix B.** The June 2021 Contained-In Determination includes the December 2014, January 2020, and

September 2020 Contained-In Determinations as attachments. All previously mentioned Contained-In Determinations are available on MassDEP's online database under transaction IDs 706656, 1167364, 1221372, and 1279175.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

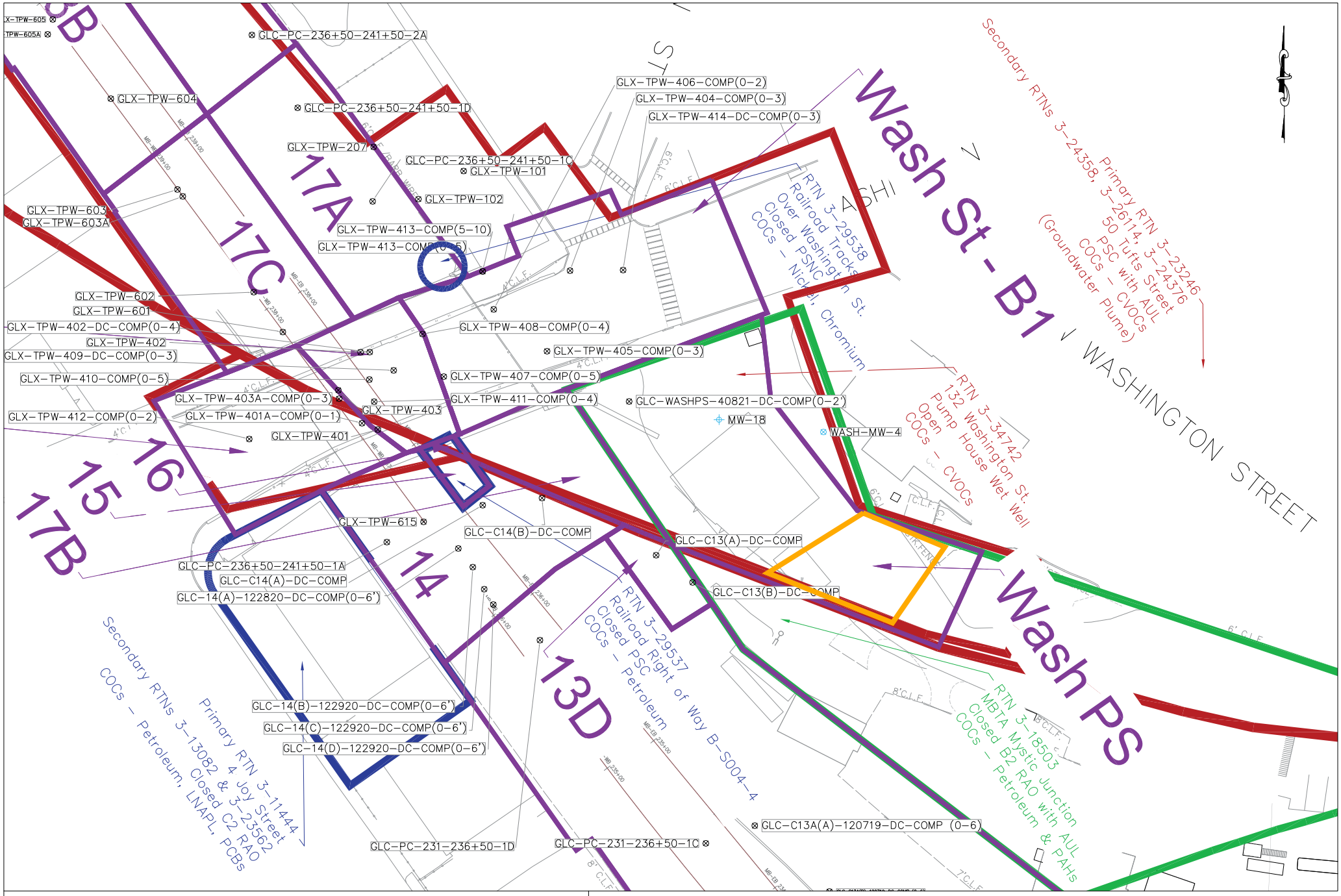
I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By:  7/23/2021
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Figure 1 – Stockpile Generation Location
Figure 2 – Stockpile Staging Location
Table 1 – Summary of Soil Sample Analytical Results
Appendix A – Laboratory Report
Appendix B – Revised June 2021 Contained-In

FIGURES

Figure 1 - Generation Location



GLXC MASTER CAD FILE – ALL
BORINGS/MONITORING WELLS 04/27/21

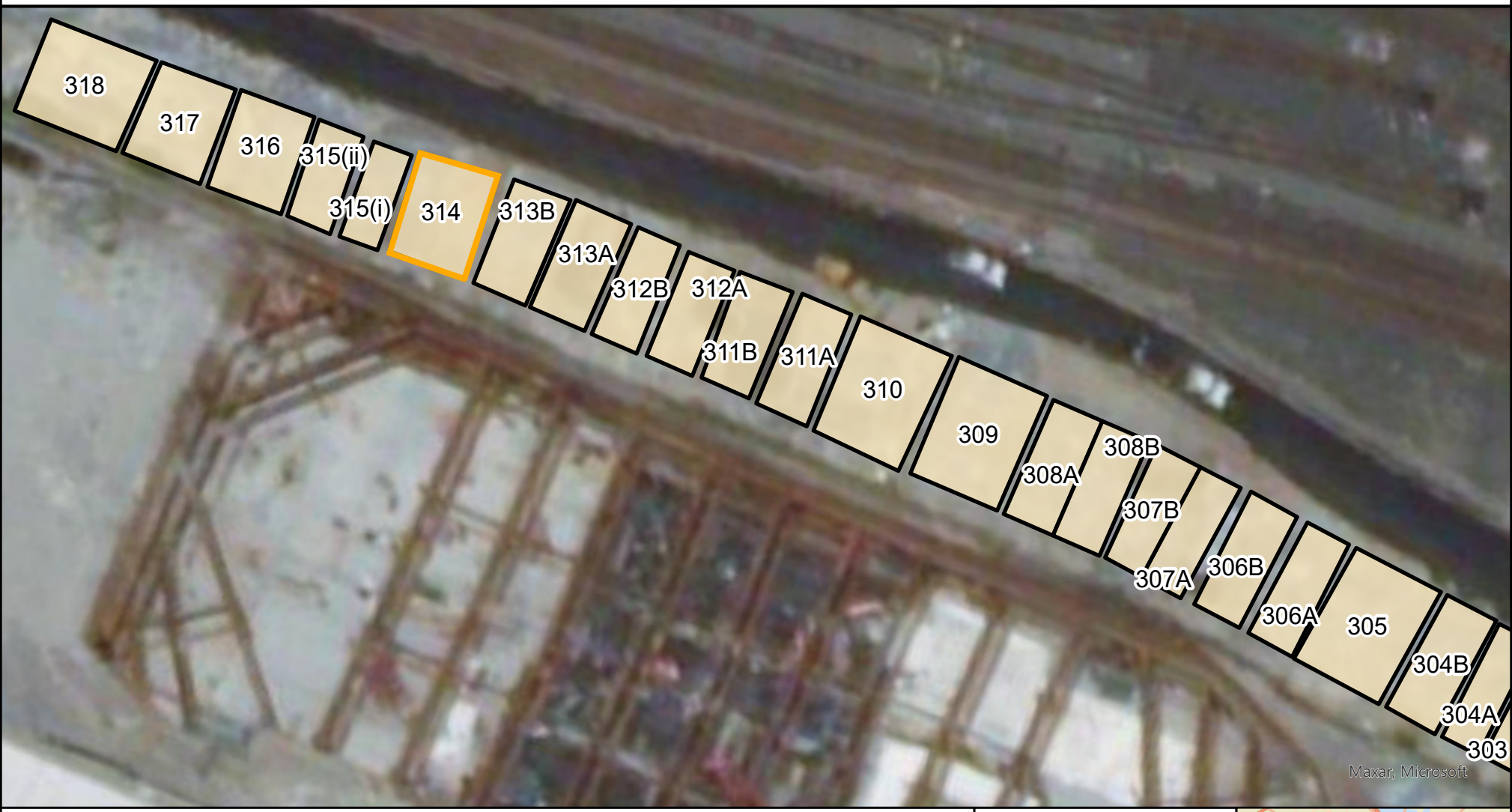
0 15 30 Feet

LEGEND

- BORING
- WELL
- RTN Closed with AUL
- RTN Closed
- RTN Open

Stockpile Generation Area

Figure 2: Stockpile Locations



Legend

Stockpile relevant to Contained-In Determination

0 25 50 Feet

1 inch =50 ft

DRAWN BY: JLD	CHECKED BY: LV
DATE: 06/30/2021	

Somerville
Cambridge
Boston
Mass Pike
City of Boston, City of Cambridge, Esri Canada, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

TABLES

Table 1 - Summary of Soil Sample Analytical Results

MBTA Green Line Extension Project

Somerville, Massachusetts

June 10, 2021

						LOCATION	GLC-NP-314-15-DC-VOC(4)	
						SAMPLING DATE	6/10/2021	
						LAB SAMPLE ID	L2131755-02	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0026	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.00052	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.00078	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.00052	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.00052	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00052	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.00052	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.00041	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00026	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0021	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.00052	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00026	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00026	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00052	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00026	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00026	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00026	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0021	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00026	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00026	U
	Toluene	108-88-3	30	500	500	mg/kg	0.00052	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.00052	U
	Chloromethane	74-87-3				mg/kg	0.0021	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.001	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.00052	U
	Chloroethane	75-00-3				mg/kg	0.001	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.00052	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.00078	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00026	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.001	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.001	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.001	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.001	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.001	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.00052	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.00052	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.00052	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.00052	U
	Dibromomethane	74-95-3				mg/kg	0.001	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.001	U
	Styrene	100-42-5	3	4	70	mg/kg	0.00052	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0052	U
	Acetone	67-64-1	6	50	400	mg/kg	0.015	
	Carbon disulfide	75-15-0				mg/kg	0.0052	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.0052	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.0052	U
	2-Hexanone	591-78-6				mg/kg	0.0052	U
	Bromochloromethane	74-97-5				mg/kg	0.001	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0021	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.001	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00052	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.001	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00026	U
	Bromobenzene	108-86-1				mg/kg	0.001	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.00052	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.00052	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.001	U
	o-Chlorotoluene	95-49-8				mg/kg	0.001	U
	p-Chlorotoluene	106-43-4				mg/kg	0.001	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0016	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0021	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.00052	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.00052	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0021	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.00052	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.001	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.001	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.001	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.001	U
	Diethyl ether	60-29-7				mg/kg	0.001	U
	Diisopropyl Ether	108-20-3				mg/kg	0.001	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.001	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.001	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.042	U
	Total VOCs					mg/kg	0.01541	

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A
LAB REPORTS

ANALYTICAL REPORT

Lab Number:	L2131755
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0032.000 P3T4
Report Date:	06/18/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
~~L2131755-01~~	~~GLC-NP-314-15-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~06/10/21 13:00~~	~~06/11/21~~
L2131755-02	GLC-NP-314-15-DC-VOC(4)	SOIL	SOMERVILLE, MA	06/10/21 13:00	06/11/21
~~L2131755-03~~	~~GLC-NP-316-15-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~06/11/21 13:00~~	~~06/11/21~~
~~L2131755-04~~	~~GLC-NP-316-15-DC-VOC(4)~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~06/11/21 13:00~~	~~06/11/21~~

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2131755
Project Number:	310142.0032.000 P3T4	**Report Date:**	06/18/21

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2131755
Project Number:	310142.0032.000 P3T4	**Report Date:**	06/18/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2131755
Project Number:	310142.0032.000 P3T4	**Report Date:**	06/18/21

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

The WG1513313-3/-4 LCS/LCSD recoveries, associated with L2131755-02, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially high bias for ethyl ether (133%/134%) and a potentially low bias for chloromethane (68%/67%) and dichlorodifluoromethane (60%/58%).

The WG1513833-3/-4 LCS/LCSD recoveries, associated with L2131755-04, are below the individual acceptance criteria for chloromethane (65%/60%) and dichlorodifluoromethane (53%/50%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

L2131755-02 and -04: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: chloromethane (0.0898), 1,4-dioxane (0.0018)

Average Response Factor: chloromethane, 1,4-dioxane

Verification: dibromodifluoromethane (68%)

L2131755-02 and -04: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Pesticides

In reference to question H:

L2131755-01 and -03: One or more dual column RPDs are above the acceptance criteria; however, obvious column interferences are present. The result is qualified with a "P" if the higher of the two results is reported.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2131755
Project Number:	310142.0032.000 P3T4	**Report Date:**	06/18/21

Case Narrative (continued)

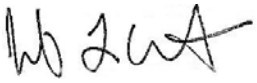
The result is qualified with an "IP" if the lower of the two results is reported.

Herbicides

In reference to question H:

The WG1511414-3 LCS recovery, associated with L2131755-01 and -03, is above the acceptance criteria for dichloroprop (152%); however, the associated samples are non-detect to the RL for this target analyte. The results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Jennifer L Clements

Title: Technical Director/Representative Date: 06/18/21

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	Batch QC	WG1513313-3	Chloromethane	LCS	68	70-130	02	potential low bias
8260C	Batch QC	WG1513313-3	Dichlorodifluoromethane	LCS	60	70-130	02	potential low bias
8260C	Batch QC	WG1513313-3	Diethyl ether	LCS	133	70-130	02	potential high bias
8260C	Batch QC	WG1513313-4	Chloromethane	LCSD	67	70-130	02	potential low bias
8260C	Batch QC	WG1513313-4	Dichlorodifluoromethane	LCSD	58	70-130	02	potential low bias
8260C	Batch QC	WG1513313-4	Diethyl ether	LCSD	134	70-130	02	potential high bias
8260C	Batch QC	WG1513833-3	Chloromethane	LCS	65	70-130	04	potential low bias
8260C	Batch QC	WG1513833-3	Dichlorodifluoromethane	LCS	53	70-130	04	potential low bias
8260C	Batch QC	WG1513833-4	Chloromethane	LCSD	60	70-130	04	potential low bias
8260C	Batch QC	WG1513833-4	Dichlorodifluoromethane	LCSD	50	70-130	04	potential low bias
MCP Chlorinated Herbicides - Westborough Lab								
8151A	Batch QC	WG1511414-3	Dichloroprop	LCSD	152	40-140	01,03	potential high bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2131755

Project Number: 310142.0032.000 P3T4 **Report Date:** 06/18/21

SAMPLE RESULTS

Lab ID: L2131755-02
Client ID: GLC-NP-314-15-DC-VOC(4)
Sample Location: SOMERVILLE, MA

Date Collected: 06/10/21 13:00
Date Received: 06/11/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 06/17/21 13:34
Analyst: MKS
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	2.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.52	--	1
Chloroform	ND		ug/kg	0.78	--	1
Carbon tetrachloride	ND		ug/kg	0.52	--	1
1,2-Dichloropropane	ND		ug/kg	0.52	--	1
Dibromochloromethane	ND		ug/kg	0.52	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.52	--	1
Tetrachloroethene	0.41		ug/kg	0.26	--	1
Chlorobenzene	ND		ug/kg	0.26	--	1
Trichlorofluoromethane	ND		ug/kg	2.1	--	1
1,2-Dichloroethane	ND		ug/kg	0.52	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.26	--	1
Bromodichloromethane	ND		ug/kg	0.26	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.52	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.26	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.26	--	1
1,1-Dichloropropene	ND		ug/kg	0.26	--	1
Bromoform	ND		ug/kg	2.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.26	--	1
Benzene	ND		ug/kg	0.26	--	1
Toluene	ND		ug/kg	0.52	--	1
Ethylbenzene	ND		ug/kg	0.52	--	1
Chloromethane	ND		ug/kg	2.1	--	1
Bromomethane	ND		ug/kg	1.0	--	1
Vinyl chloride	ND		ug/kg	0.52	--	1
Chloroethane	ND		ug/kg	1.0	--	1
1,1-Dichloroethene	ND		ug/kg	0.52	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.78	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2131755

Project Number: 310142.0032.000 P3T4 **Report Date:** 06/18/21

SAMPLE RESULTS

Lab ID: L2131755-02 Date Collected: 06/10/21 13:00

Client ID: GLC-NP-314-15-DC-VOC(4) Date Received: 06/11/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.26	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.0	--	1
Methyl tert butyl ether	ND		ug/kg	1.0	--	1
p/m-Xylene	ND		ug/kg	1.0	--	1
o-Xylene	ND		ug/kg	0.52	--	1
Xylenes, Total	ND		ug/kg	0.52	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.52	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.52	--	1
Dibromomethane	ND		ug/kg	1.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.0	--	1
Styrene	ND		ug/kg	0.52	--	1
Dichlorodifluoromethane	ND		ug/kg	5.2	--	1
Acetone	15		ug/kg	13	--	1
Carbon disulfide	ND		ug/kg	5.2	--	1
Methyl ethyl ketone	ND		ug/kg	5.2	--	1
Methyl isobutyl ketone	ND		ug/kg	5.2	--	1
2-Hexanone	ND		ug/kg	5.2	--	1
Bromochloromethane	ND		ug/kg	1.0	--	1
Tetrahydrofuran	ND		ug/kg	2.1	--	1
2,2-Dichloropropane	ND		ug/kg	1.0	--	1
1,2-Dibromoethane	ND		ug/kg	0.52	--	1
1,3-Dichloropropane	ND		ug/kg	1.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.26	--	1
Bromobenzene	ND		ug/kg	1.0	--	1
n-Butylbenzene	ND		ug/kg	0.52	--	1
sec-Butylbenzene	ND		ug/kg	0.52	--	1
tert-Butylbenzene	ND		ug/kg	1.0	--	1
o-Chlorotoluene	ND		ug/kg	1.0	--	1
p-Chlorotoluene	ND		ug/kg	1.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.6	--	1
Hexachlorobutadiene	ND		ug/kg	2.1	--	1
Isopropylbenzene	ND		ug/kg	0.52	--	1
p-Isopropyltoluene	ND		ug/kg	0.52	--	1
Naphthalene	ND		ug/kg	2.1	--	1
n-Propylbenzene	ND		ug/kg	0.52	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2131755

Project Number: 310142.0032.000 P3T4 **Report Date:** 06/18/21

SAMPLE RESULTS

Lab ID: L2131755-02 Date Collected: 06/10/21 13:00

Client ID: GLC-NP-314-15-DC-VOC(4) Date Received: 06/11/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.0	--	1
Diethyl ether	ND		ug/kg	1.0	--	1
Diisopropyl Ether	ND		ug/kg	1.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.0	--	1
1,4-Dioxane	ND		ug/kg	42	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	104		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2131755

Project Number: 310142.0032.000 P3T4 **Report Date:** 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 06/17/21 06:10
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1513313-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2131755

Project Number: 310142.0032.000 P3T4 **Report Date:** 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 06/17/21 06:10
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1513313-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4
Lab Number: L2131755
Report Date: 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 06/17/21 06:10
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1513313-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2131755

Project Number: 310142.0032.000 P3T4 **Report Date:** 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 06/17/21 17:49
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1513833-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2131755

Project Number: 310142.0032.000 P3T4 **Report Date:** 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 06/17/21 17:49
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1513833-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4
Lab Number: L2131755
Report Date: 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 06/17/21 17:49
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1513833-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1513313-3 WG1513313-4								
Methylene chloride	94		93		70-130	1		20
1,1-Dichloroethane	90		90		70-130	0		20
Chloroform	85		88		70-130	3		20
Carbon tetrachloride	90		89		70-130	1		20
1,2-Dichloropropane	90		91		70-130	1		20
Dibromochloromethane	98		102		70-130	4		20
1,1,2-Trichloroethane	96		98		70-130	2		20
Tetrachloroethene	105		107		70-130	2		20
Chlorobenzene	99		100		70-130	1		20
Trichlorofluoromethane	92		91		70-130	1		20
1,2-Dichloroethane	79		81		70-130	3		20
1,1,1-Trichloroethane	90		89		70-130	1		20
Bromodichloromethane	88		88		70-130	0		20
trans-1,3-Dichloropropene	98		102		70-130	4		20
cis-1,3-Dichloropropene	95		97		70-130	2		20
1,1-Dichloropropene	97		97		70-130	0		20
Bromoform	102		102		70-130	0		20
1,1,2,2-Tetrachloroethane	101		101		70-130	0		20
Benzene	95		95		70-130	0		20
Toluene	94		94		70-130	0		20
Ethylbenzene	98		99		70-130	1		20
Chloromethane	**68**	Q	**67**	Q	70-130	1		20
Bromomethane	109		102		70-130	7		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1513313-3 WG1513313-4								
Vinyl chloride	106		101		70-130	5		20
Chloroethane	121		117		70-130	3		20
1,1-Dichloroethene	104		102		70-130	2		20
trans-1,2-Dichloroethene	98		98		70-130	0		20
Trichloroethene	94		93		70-130	1		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	103		103		70-130	0		20
1,4-Dichlorobenzene	102		101		70-130	1		20
Methyl tert butyl ether	94		95		70-130	1		20
p/m-Xylene	101		102		70-130	1		20
o-Xylene	101		103		70-130	2		20
cis-1,2-Dichloroethene	96		96		70-130	0		20
Dibromomethane	88		90		70-130	2		20
1,2,3-Trichloropropane	95		93		70-130	2		20
Styrene	100		102		70-130	2		20
Dichlorodifluoromethane	**60**	Q	**58**	Q	70-130	3		20
Acetone	82		80		70-130	2		20
Carbon disulfide	95		94		70-130	1		20
Methyl ethyl ketone	86		84		70-130	2		20
Methyl isobutyl ketone	89		90		70-130	1		20
2-Hexanone	85		88		70-130	3		20
Bromochloromethane	97		97		70-130	0		20
Tetrahydrofuran	89		91		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1513313-3 WG1513313-4								
2,2-Dichloropropane	91		90		70-130	1		20
1,2-Dibromoethane	102		105		70-130	3		20
1,3-Dichloropropane	98		100		70-130	2		20
1,1,1,2-Tetrachloroethane	101		104		70-130	3		20
Bromobenzene	100		99		70-130	1		20
n-Butylbenzene	105		104		70-130	1		20
sec-Butylbenzene	103		102		70-130	1		20
tert-Butylbenzene	102		101		70-130	1		20
o-Chlorotoluene	100		98		70-130	2		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	96		99		70-130	3		20
Hexachlorobutadiene	100		100		70-130	0		20
Isopropylbenzene	104		103		70-130	1		20
p-Isopropyltoluene	104		103		70-130	1		20
Naphthalene	100		102		70-130	2		20
n-Propylbenzene	103		102		70-130	1		20
1,2,3-Trichlorobenzene	100		101		70-130	1		20
1,2,4-Trichlorobenzene	104		104		70-130	0		20
1,3,5-Trimethylbenzene	101		101		70-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20
Diethyl ether	**133**	Q	**134**	Q	70-130	1		20
Diisopropyl Ether	91		92		70-130	1		20
Ethyl-Tert-Butyl-Ether	92		94		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.000 P3T4

Lab Number: L2131755

Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1513313-3 WG1513313-4								
Tertiary-Amyl Methyl Ether	95		97		70-130	2		20
1,4-Dioxane	89		88		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	86		86		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	96		96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1513833-3 WG1513833-4								
Methylene chloride	88		85		70-130	3		20
1,1-Dichloroethane	84		81		70-130	4		20
Chloroform	79		77		70-130	3		20
Carbon tetrachloride	80		78		70-130	3		20
1,2-Dichloropropane	84		82		70-130	2		20
Dibromochloromethane	93		93		70-130	0		20
1,1,2-Trichloroethane	92		92		70-130	0		20
Tetrachloroethene	98		94		70-130	4		20
Chlorobenzene	92		89		70-130	3		20
Trichlorofluoromethane	84		81		70-130	4		20
1,2-Dichloroethane	75		74		70-130	1		20
1,1,1-Trichloroethane	82		79		70-130	4		20
Bromodichloromethane	81		80		70-130	1		20
trans-1,3-Dichloropropene	92		91		70-130	1		20
cis-1,3-Dichloropropene	88		87		70-130	1		20
1,1-Dichloropropene	87		85		70-130	2		20
Bromoform	95		95		70-130	0		20
1,1,2,2-Tetrachloroethane	94		96		70-130	2		20
Benzene	87		85		70-130	2		20
Toluene	87		85		70-130	2		20
Ethylbenzene	92		89		70-130	3		20
Chloromethane	**65**	Q	**60**	Q	70-130	8		20
Bromomethane	96		88		70-130	9		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1513833-3 WG1513833-4								
Vinyl chloride	93		87		70-130	7		20
Chloroethane	105		99		70-130	6		20
1,1-Dichloroethene	93		89		70-130	4		20
trans-1,2-Dichloroethene	89		86		70-130	3		20
Trichloroethene	86		83		70-130	4		20
1,2-Dichlorobenzene	92		90		70-130	2		20
1,3-Dichlorobenzene	94		91		70-130	3		20
1,4-Dichlorobenzene	92		91		70-130	1		20
Methyl tert butyl ether	88		89		70-130	1		20
p/m-Xylene	95		91		70-130	4		20
o-Xylene	95		92		70-130	3		20
cis-1,2-Dichloroethene	88		86		70-130	2		20
Dibromomethane	83		82		70-130	1		20
1,2,3-Trichloropropane	87		90		70-130	3		20
Styrene	95		92		70-130	3		20
Dichlorodifluoromethane	**53**	Q	**50**	Q	70-130	6		20
Acetone	82		78		70-130	5		20
Carbon disulfide	86		83		70-130	4		20
Methyl ethyl ketone	77		85		70-130	10		20
Methyl isobutyl ketone	85		88		70-130	3		20
2-Hexanone	82		85		70-130	4		20
Bromochloromethane	89		87		70-130	2		20
Tetrahydrofuran	84		87		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1513833-3 WG1513833-4								
2,2-Dichloropropane	81		78		70-130	4		20
1,2-Dibromoethane	98		98		70-130	0		20
1,3-Dichloropropane	93		92		70-130	1		20
1,1,1,2-Tetrachloroethane	95		93		70-130	2		20
Bromobenzene	92		91		70-130	1		20
n-Butylbenzene	97		93		70-130	4		20
sec-Butylbenzene	94		92		70-130	2		20
tert-Butylbenzene	94		91		70-130	3		20
o-Chlorotoluene	93		89		70-130	4		20
p-Chlorotoluene	91		89		70-130	2		20
1,2-Dibromo-3-chloropropane	90		98		70-130	9		20
Hexachlorobutadiene	93		89		70-130	4		20
Isopropylbenzene	95		92		70-130	3		20
p-Isopropyltoluene	95		92		70-130	3		20
Naphthalene	94		95		70-130	1		20
n-Propylbenzene	95		92		70-130	3		20
1,2,3-Trichlorobenzene	92		92		70-130	0		20
1,2,4-Trichlorobenzene	94		92		70-130	2		20
1,3,5-Trimethylbenzene	94		91		70-130	3		20
1,2,4-Trimethylbenzene	93		90		70-130	3		20
Diethyl ether	118		116		70-130	2		20
Diisopropyl Ether	86		85		70-130	1		20
Ethyl-Tert-Butyl-Ether	87		87		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.000 P3T4

Lab Number: L2131755

Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1513833-3 WG1513833-4								
Tertiary-Amyl Methyl Ether	90		90		70-130	0		20
1,4-Dioxane	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	86		88		70-130
Toluene-d8	103		103		70-130
4-Bromofluorobenzene	97		98		70-130
Dibromofluoromethane	95		97		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4
Lab Number: L2131755
Report Date: 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 06/18/21 08:17
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 06/17/21 20:56

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG1513677-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4
Lab Number: L2131755
Report Date: 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 06/18/21 08:17
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 06/17/21 20:56

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG1513677-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4
Lab Number: L2131755
Report Date: 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 06/18/21 08:17
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 06/17/21 20:56

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG1513677-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	74		30-130
Phenol-d6	72		30-130
Nitrobenzene-d5	72		30-130
2-Fluorobiphenyl	67		30-130
2,4,6-Tribromophenol	67		30-130
4-Terphenyl-d14	74		30-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.000 P3T4

Lab Number: L2131755

Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG1513677-2 WG1513677-3								
Acenaphthene	83		78		40-140	6		30
1,2,4-Trichlorobenzene	75		73		40-140	3		30
Hexachlorobenzene	76		72		40-140	5		30
Bis(2-chloroethyl)ether	71		70		40-140	1		30
2-Chloronaphthalene	74		72		40-140	3		30
1,2-Dichlorobenzene	75		73		40-140	3		30
1,3-Dichlorobenzene	72		71		40-140	1		30
1,4-Dichlorobenzene	73		72		40-140	1		30
3,3'-Dichlorobenzidine	62		59		40-140	5		30
2,4-Dinitrotoluene	87		83		40-140	5		30
2,6-Dinitrotoluene	87		87		40-140	0		30
Azobenzene	77		73		40-140	5		30
Fluoranthene	84		80		40-140	5		30
4-Bromophenyl phenyl ether	78		73		40-140	7		30
Bis(2-chloroisopropyl)ether	83		79		40-140	5		30
Bis(2-chloroethoxy)methane	72		70		40-140	3		30
Hexachlorobutadiene	70		69		40-140	1		30
Hexachloroethane	78		76		40-140	3		30
Isophorone	67		65		40-140	3		30
Naphthalene	75		73		40-140	3		30
Nitrobenzene	77		74		40-140	4		30
Bis(2-ethylhexyl)phthalate	92		88		40-140	4		30
Butyl benzyl phthalate	96		95		40-140	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG1513677-2 WG1513677-3								
Di-n-butylphthalate	87		84		40-140	4		30
Di-n-octylphthalate	93		88		40-140	6		30
Diethyl phthalate	82		79		40-140	4		30
Dimethyl phthalate	74		74		40-140	0		30
Benzo(a)anthracene	81		76		40-140	6		30
Benzo(a)pyrene	80		77		40-140	4		30
Benzo(b)fluoranthene	82		77		40-140	6		30
Benzo(k)fluoranthene	80		76		40-140	5		30
Chrysene	81		78		40-140	4		30
Acenaphthylene	71		71		40-140	0		30
Anthracene	83		81		40-140	2		30
Benzo(ghi)perylene	80		77		40-140	4		30
Fluorene	82		78		40-140	5		30
Phenanthrene	82		79		40-140	4		30
Dibenzo(a,h)anthracene	79		76		40-140	4		30
Indeno(1,2,3-cd)pyrene	81		77		40-140	5		30
Pyrene	84		81		40-140	4		30
Aniline	64		64		40-140	0		30
4-Chloroaniline	52		51		40-140	2		30
Dibenzofuran	80		76		40-140	5		30
2-Methylnaphthalene	73		73		40-140	0		30
Acetophenone	70		69		40-140	1		30
2,4,6-Trichlorophenol	79		78		30-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.000 P3T4

Lab Number: L2131755

Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG1513677-2 WG1513677-3								
2-Chlorophenol	85		82		30-130	4		30
2,4-Dichlorophenol	82		81		30-130	1		30
2,4-Dimethylphenol	77		76		30-130	1		30
2-Nitrophenol	111		107		30-130	4		30
4-Nitrophenol	99		92		30-130	7		30
2,4-Dinitrophenol	83		83		30-130	0		30
Pentachlorophenol	71		70		30-130	1		30
Phenol	78		76		30-130	3		30
2-Methylphenol	83		81		30-130	2		30
3-Methylphenol/4-Methylphenol	80		77		30-130	4		30
2,4,5-Trichlorophenol	84		81		30-130	4		30
Pyridine	46		47		30-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	76		73		30-130
Phenol-d6	75		73		30-130
Nitrobenzene-d5	74		70		30-130
2-Fluorobiphenyl	67		66		30-130
2,4,6-Tribromophenol	74		70		30-130
4-Terphenyl-d14	74		73		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4
Lab Number: L2131755
Report Date: 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 06/18/21 06:38
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 06/17/21 21:41

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01,03 Batch: WG1513681-1					
TPH (C10-C36)	ND		ug/kg	32700	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	82		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.000 P3T4

Lab Number: L2131755

Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01,03 Batch: WG1513681-2								
TPH (C10-C36)	89		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	78				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4
Lab Number: L2131755
Report Date: 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 06/14/21 17:23
Analyst: AD

Extraction Method: EPA 3540C
Extraction Date: 06/13/21 17:05
Cleanup Method: EPA 3665A
Cleanup Date: 06/14/21
Cleanup Method: EPA 3660B
Cleanup Date: 06/14/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01,03 Batch: WG1511529-1						
Aroclor 1016	ND		ug/kg	32.7	--	A
Aroclor 1221	ND		ug/kg	32.7	--	A
Aroclor 1232	ND		ug/kg	32.7	--	A
Aroclor 1242	ND		ug/kg	32.7	--	A
Aroclor 1248	ND		ug/kg	32.7	--	A
Aroclor 1254	ND		ug/kg	32.7	--	A
Aroclor 1260	ND		ug/kg	32.7	--	A
Aroclor 1262	ND		ug/kg	32.7	--	A
Aroclor 1268	ND		ug/kg	32.7	--	A
PCBs, Total	ND		ug/kg	32.7	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	70		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	70		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01,03 Batch: WG1511529-2 WG1511529-3									
Aroclor 1016	75		77		40-140	3		30	A
Aroclor 1260	71		73		40-140	3		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		72		30-150	B
Decachlorobiphenyl	65		66		30-150	B
2,4,5,6-Tetrachloro-m-xylene	66		70		30-150	A
Decachlorobiphenyl	66		66		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4
Lab Number: L2131755
Report Date: 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 06/15/21 14:05
Analyst: JMC

Extraction Method: EPA 8151A
Extraction Date: 06/13/21 00:21

Methylation Date: 06/15/21 05:48

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 01,03 Batch: WG1511414-1						
MCPP	ND		ug/kg	3200	--	A
MCPA	ND		ug/kg	3200	--	A
Dalapon	ND		ug/kg	32	--	A
Dicamba	ND		ug/kg	32	--	A
Dichloroprop	ND		ug/kg	32	--	A
2,4-D	ND		ug/kg	32	--	A
2,4-DB	ND		ug/kg	32	--	A
2,4,5-T	ND		ug/kg	32	--	A
2,4,5-TP (Silvex)	ND		ug/kg	32	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	61		30-150	A
DCAA	54		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4
Lab Number: L2131755
Report Date: 06/18/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 06/18/21 11:49
Analyst: AR

Extraction Method: EPA 3546
Extraction Date: 06/17/21 21:20
Cleanup Method: EPA 3620B
Cleanup Date: 06/18/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01,03 Batch: WG1513679-1						
Delta-BHC	ND		ug/kg	1.52	--	A
Lindane	ND		ug/kg	0.505	--	A
Alpha-BHC	ND		ug/kg	0.631	--	A
Beta-BHC	ND		ug/kg	1.52	--	A
Heptachlor	ND		ug/kg	0.758	--	A
Aldrin	ND		ug/kg	1.52	--	A
Heptachlor epoxide	ND		ug/kg	2.84	--	A
Endrin	ND		ug/kg	0.631	--	A
Endrin ketone	ND		ug/kg	1.52	--	A
Dieldrin	ND		ug/kg	0.947	--	A
4,4'-DDE	ND		ug/kg	1.52	--	A
4,4'-DDD	ND		ug/kg	1.52	--	A
4,4'-DDT	ND		ug/kg	2.84	--	A
Endosulfan I	ND		ug/kg	1.52	--	A
Endosulfan II	ND		ug/kg	1.52	--	A
Endosulfan sulfate	ND		ug/kg	0.631	--	A
Methoxychlor	ND		ug/kg	2.84	--	A
Chlordane	ND		ug/kg	12.6	--	A
Hexachlorobenzene	ND		ug/kg	1.52	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	90		30-150	A
2,4,5,6-Tetrachloro-m-xylene	81		30-150	B
Decachlorobiphenyl	102		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 01,03 Batch: WG1511414-2 WG1511414-3									
MCPP	65		69		40-140	6		30	A
MCPA	60		64		40-140	6		30	A
Dalapon	52		55		40-140	6		30	A
Dicamba	61		64		40-140	5		30	A
Dichloroprop	139		**152**	Q	40-140	9		30	A
2,4-D	63		71		40-140	12		30	A
2,4-DB	57		64		40-140	12		30	A
2,4,5-T	62		66		40-140	6		30	A
2,4,5-TP (Silvex)	56		59		40-140	5		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	60		66		30-150	A
DCAA	57		61		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03 Batch: WG1513679-2 WG1513679-3									
Delta-BHC	106		96		40-140	10		30	A
Lindane	104		96		40-140	8		30	A
Alpha-BHC	108		99		40-140	9		30	A
Beta-BHC	90		84		40-140	7		30	A
Heptachlor	102		90		40-140	13		30	A
Aldrin	103		90		40-140	13		30	A
Heptachlor epoxide	96		84		40-140	13		30	A
Endrin	108		94		40-140	14		30	A
Endrin ketone	96		84		40-140	13		30	A
Dieldrin	112		98		40-140	13		30	A
4,4'-DDE	109		92		40-140	17		30	A
4,4'-DDD	112		96		40-140	15		30	A
4,4'-DDT	104		89		40-140	16		30	A
Endosulfan I	98		86		40-140	13		30	A
Endosulfan II	102		90		40-140	13		30	A
Endosulfan sulfate	85		72		40-140	17		30	A
Methoxychlor	84		72		40-140	15		30	A
Hexachlorobenzene	88		82		40-140	7		30	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03 Batch: WG1513679-2 WG1513679-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		74		30-150	A
Decachlorobiphenyl	95		80		30-150	A
2,4,5,6-Tetrachloro-m-xylene	81		71		30-150	B
Decachlorobiphenyl	106		87		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2131755

Project Number: 310142.0032.000 P3T4 **Report Date:** 06/18/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1513023-1										
Antimony, Total	ND		mg/kg	2.00	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Arsenic, Total	ND		mg/kg	0.400	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Barium, Total	ND		mg/kg	0.400	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Beryllium, Total	ND		mg/kg	0.200	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Cadmium, Total	ND		mg/kg	0.400	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Chromium, Total	ND		mg/kg	0.400	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Lead, Total	ND		mg/kg	2.00	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Nickel, Total	ND		mg/kg	1.00	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Selenium, Total	ND		mg/kg	2.00	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Silver, Total	ND		mg/kg	0.400	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Thallium, Total	ND		mg/kg	2.00	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Vanadium, Total	ND		mg/kg	0.400	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD
Zinc, Total	ND		mg/kg	2.00	--	1	06/17/21 22:02	06/18/21 14:40	97,6010D	GD

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1513026-1										
Mercury, Total	ND		mg/kg	0.083	--	1	06/17/21 22:59	06/18/21 10:37	97,7471B	NB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.000 P3T4

Lab Number: L2131755

Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1513023-2 WG1513023-3 SRM Lot Number: D109-540								
Antimony, Total	141		146		19-250	3		30
Arsenic, Total	102		108		70-130	6		30
Barium, Total	90		98		75-125	9		30
Beryllium, Total	97		99		75-125	2		30
Cadmium, Total	97		95		75-125	2		30
Chromium, Total	92		96		70-130	4		30
Lead, Total	95		101		72-128	6		30
Nickel, Total	96		95		70-130	1		30
Selenium, Total	106		108		68-132	2		30
Silver, Total	100		108		68-131	8		30
Thallium, Total	95		97		68-131	2		30
Vanadium, Total	93		99		59-141	6		30
Zinc, Total	96		104		70-130	8		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1513026-2 WG1513026-3 SRM Lot Number: D109-540								
Mercury, Total	98		94		60-140	4		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

SAMPLE RESULTS

Lab ID: L2131755-02
Client ID: GLC-NP-314-15-DC-VOC(4)
Sample Location: SOMERVILLE, MA

Date Collected: 06/10/21 13:00
Date Received: 06/11/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.9		%	0.100	NA	1	-	06/12/21 06:56	121,2540G	RI

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2131755

Project Number: 310142.0032.000 P3T4 **Report Date:** 06/18/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1513118-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	06/17/21 14:50	06/17/21 15:59	125,7.3	NA
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1513119-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	06/17/21 14:50	06/17/21 16:30	125,7.3	NA

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032.000 P3T4

Lab Number: L2131755

Report Date: 06/18/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1512581-1								
pH	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1513118-2								
Sulfide, Reactive	84		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1513119-2								
Cyanide, Reactive	100		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1513428-1								
Specific Conductance	99		-		99-101	-		

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2131755-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2131755-01B	Glass 250ml/8oz unpreserved	A	NA		4.1	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2131755-02A	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLG-10(14)
L2131755-02B	Vial NaHSO4 preserved	A	NA		4.1	Y	Absent		MCP-8260HLG-10(14)
L2131755-02C	Vial NaHSO4 preserved	A	NA		4.1	Y	Absent		MCP-8260HLG-10(14)
L2131755-02D	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)
L2131755-03A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2131755-03B	Glass 250ml/8oz unpreserved	A	NA		4.1	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2131755-04A	Vial MeOH preserved	A	NA		4.1	Y	Absent		MCP-8260HLG-10(14)
L2131755-04B	Vial NaHSO4 preserved	A	NA		4.1	Y	Absent		MCP-8260HLG-10(14)
L2131755-04C	Vial NaHSO4 preserved	A	NA		4.1	Y	Absent		MCP-8260HLG-10(14)
L2131755-04D	Plastic 2oz unpreserved for TS	A	NA		4.1	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032.000 P3T4

Lab Number: L2131755
Report Date: 06/18/21

Container Information

Container ID	***Container Type***	***Cooler***	***Initial pH***	***Final pH***	***Temp deg C***	***Pres***	***Seal***	***Frozen Date/Time***	***Analysis(*)***

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2131755
Project Number:	310142.0032.000 P3T4	**Report Date:**	06/18/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2131755
Project Number:	310142.0032.000 P3T4	**Report Date:**	06/18/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2131755
Project Number:	310142.0032.000 P3T4	**Report Date:**	06/18/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2131755
Project Number:	310142.0032.000 P3T4	**Report Date:**	06/18/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 06/11/21

ALPHA Job #: L2131755

Project Information

Project Name: MBTA GLX Disposal Sampling

Project Location: Somerville, MA

Project #: 310142.0032.0000 Phase 3 Task4

Project Manager: Ryan Niles

ALPHA Quote #: 7623R1

Turn-Around Time

~~☒ Standard~~ (ZP)

☒ Rush (ONLY IF PRE-APPROVED) 5 day TAT

Due Date: Time:

Client Information

Client: TRC Environmental Corp

Address: 2 Liberty Square
Boston, MA 02109

Phone: 617-476-1303

Fax:

Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Report Information

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Data Deliverables

Billing Information

☒ Same as Client info PO #: 165723

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1, <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
Add'l emails: KMorin@trccompanies.com, lvolk@"".com, lnakolan@"".com, bayres@"".com
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides		
31755 -01	GLC-MP-314-15-DC-Comp	6/10/21	1300	Soil	ZP	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	
-02	GLC-MP-314-15 ~~Standard~~ -DC-VOC(4)	6/10/21	1300	Soil	ZP	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-03	GLC-MP-316-15-DC-Comp	6/11/21	1300	Soil	ZP	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	
-04	GLC-MP-316-15-DC-VOC(4)	6/11/21	1300	Soil	ZP	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Container Type	V	V	A	A	A	A	A	A	A	A	A	A	
Preservative	F	G	A	A	A	A	A	A	A	A	A	A	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
	6/11/21	Plum AAL	6/11/21 1550
	6/11/21 1807		6/11/21 1807

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2131755
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.000 P3T4
Lab Sample ID	: WG1513313-5	**Lab File ID**	: V17210617A05
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 06/17/21 06:10

Client Sample No.	Lab Sample ID	Analysis Date
WG1513313-3LCS	WG1513313-3	06/17/21 04:26
WG1513313-4LCSD	WG1513313-4	06/17/21 04:52
GLC-NP-314-15-DC-VOC(4)	L2131755-02	06/17/21 13:34

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2131755
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.000 P3T4
Lab Sample ID	: WG1513833-5	**Lab File ID**	: V17210617N05
Instrument ID	: VOA117		
Matrix	: SOIL	**Analysis Date**	: 06/17/21 17:49

Client Sample No.	Lab Sample ID	Analysis Date
WG1513833-3LCS	WG1513833-3	06/17/21 15:42
WG1513833-4LCSD	WG1513833-4	06/17/21 16:09
GLC-NP-316-15-DC-VOC(4)	L2131755-04	06/17/21 19:07

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2131755	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.000 P3T4	
Instrument ID	: VOA117		**Calibration Date**	: 06/17/21 04:26	
Lab File ID	: V17210617A01		**Init. Calib. Date(s)**	: 05/27/21	05/27/21
Sample No	: WG1513313-2		**Init. Calib. Times**	: 04:16	07:44
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	119	0
Dichlorodifluoromethane	0.21	0.126	-	40*	20	73	0
Chloromethane	0.326	0.222	-	31.9*	20	95	0
Vinyl chloride	0.167	0.176	-	-5.4	20	143	0
Bromomethane	0.1	0.109	-	-9	20	152	0
Chloroethane	0.084	0.101	-	-20.2*	20	163	0
Trichlorofluoromethane	0.261	0.24	-	8	20	109	0
Ethyl ether	40	53.079	-	-32.7*	20	167	0
1,1-Dichloroethene	0.157	0.163	-	-3.8	20	127	0
Carbon disulfide	0.528	0.504	-	4.5	20	126	0
Freon-113	0.161	0.163	-	-1.2	20	119	0
Acrolein	0.018	0.015*	-	16.7	20	109	0
Methylene chloride	0.193	0.18	-	6.7	20	126	0
Acetone	40	32.643	-	18.4	20	107	0
trans-1,2-Dichloroethene	0.192	0.189	-	1.6	20	124	0
Methyl acetate	0.101	0.078*	-	22.8*	20	105	0
Methyl tert-butyl ether	0.415	0.389	-	6.3	20	115	-.01
tert-Butyl alcohol	0.015	0.013*	-	13.3	20	104	0
Diisopropyl ether	0.714	0.648	-	9.2	20	112	0
1,1-Dichloroethane	0.385	0.348	-	9.6	20	116	0
Halothane	0.139	0.143	-	-2.9	20	125	0
Acrylonitrile	0.047	0.043*	-	8.5	20	108	-.01
Ethyl tert-butyl ether	0.6	0.553	-	7.8	20	112	0
Vinyl acetate	0.408	0.367	-	10	20	107	0
cis-1,2-Dichloroethene	0.214	0.205	-	4.2	20	124	0
2,2-Dichloropropane	0.318	0.288	-	9.4	20	111	0
Bromochloromethane	0.091	0.088	-	3.3	20	123	0
Cyclohexane	0.389	0.357	-	8.2	20	112	0
Chloroform	0.381	0.325	-	14.7	20	114	0
Ethyl acetate	0.152	0.117	-	23*	20	101	0
Carbon tetrachloride	0.312	0.28	-	10.3	20	107	0
Tetrahydrofuran	40	35.662	-	10.8	20	104	0
Dibromofluoromethane	0.259	0.248	-	4.2	20	113	0
1,1,1-Trichloroethane	0.325	0.294	-	9.5	20	108	0
2-Butanone	40	34.577	-	13.6	20	106	0
1,1-Dichloropropene	0.256	0.248	-	3.1	20	117	0
Benzene	0.748	0.713	-	4.7	20	124	0
tert-Amyl methyl ether	0.422	0.402	-	4.7	20	116	0
1,2-Dichloroethane-d4	0.267	0.228	-	14.6	20	99	0
1,2-Dichloroethane	0.269	0.213	-	20.8*	20	100	0
Methyl cyclohexane	0.318	0.307	-	3.5	20	118	0
Trichloroethene	0.207	0.195*	-	5.8	20	118	0
Dibromomethane	0.1	0.088	-	12	20	110	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2131755	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.000 P3T4	
Instrument ID	: VOA117		**Calibration Date**	: 06/17/21 04:26	
Lab File ID	: V17210617A01		**Init. Calib. Date(s)**	: 05/27/21	05/27/21
Sample No	: WG1513313-2		**Init. Calib. Times**	: 04:16	07:44
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.217	0.195	-	10.1	20	117	-.01
2-Chloroethyl vinyl ether	0.097	0.091	-	6.2	20	111	0
Bromodichloromethane	0.271	0.237	-	12.5	20	110	0
1,4-Dioxane	0.00173	0.00154*	-	11	20	98	0
cis-1,3-Dichloropropene	0.292	0.279	-	4.5	20	116	0
Chlorobenzene-d5	1	1	-	0	20	114	0
Toluene-d8	1.266	1.292	-	-2.1	20	115	0
Toluene	0.652	0.613	-	6	20	122	-.01
4-Methyl-2-pentanone	40	35.586	-	11	20	108	0
Tetrachloroethene	0.265	0.279	-	-5.3	20	119	0
trans-1,3-Dichloropropene	0.315	0.31	-	1.6	20	113	0
Ethyl methacrylate	0.204	0.203	-	0.5	20	113	0
1,1,2-Trichloroethane	0.149	0.143	-	4	20	117	0
Chlorodibromomethane	0.233	0.229	-	1.7	20	111	-.01
1,3-Dichloropropane	0.303	0.296	-	2.3	20	115	0
1,2-Dibromoethane	0.165	0.169	-	-2.4	20	113	0
2-Hexanone	0.114	0.097*	-	14.9	20	101	-.01
Chlorobenzene	0.717	0.707	-	1.4	20	122	0
Ethylbenzene	1.195	1.178	-	1.4	20	119	0
1,1,1,2-Tetrachloroethane	0.254	0.256	-	-0.8	20	115	0
p/m Xylene	0.457	0.461	-	-0.9	20	122	0
o Xylene	0.433	0.437	-	-0.9	20	121	0
Styrene	0.719	0.723	-	-0.6	20	122	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	110	0
Bromoform	0.247	0.252	-	-2	20	111	0
Isopropylbenzene	2.3	2.402	-	-4.4	20	119	0
4-Bromofluorobenzene	0.896	0.868	-	3.1	20	107	0
Bromobenzene	0.572	0.571	-	0.2	20	118	0
n-Propylbenzene	2.681	2.757	-	-2.8	20	118	0
1,4-Dichlorobutane	0.701	0.639	-	8.8	20	105	0
1,1,2,2-Tetrachloroethane	0.374	0.377	-	-0.8	20	114	0
4-Ethyltoluene	2.255	2.327	-	-3.2	20	120	0
2-Chlorotoluene	1.595	1.6	-	-0.3	20	119	0
1,3,5-Trimethylbenzene	1.941	1.966	-	-1.3	20	118	0
1,2,3-Trichloropropane	0.305	0.289	-	5.2	20	109	0
trans-1,4-Dichloro-2-buten	0.134	0.118	-	11.9	20	96	0
4-Chlorotoluene	1.67	1.664	-	0.4	20	118	0
tert-Butylbenzene	1.734	1.77	-	-2.1	20	117	0
1,2,4-Trimethylbenzene	1.935	1.945	-	-0.5	20	118	0
sec-Butylbenzene	2.536	2.606	-	-2.8	20	118	0
p-Isopropyltoluene	2.216	2.297	-	-3.7	20	120	0
1,3-Dichlorobenzene	1.139	1.174	-	-3.1	20	123	0
1,4-Dichlorobenzene	1.137	1.157	-	-1.8	20	123	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2131755	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.000 P3T4	
Instrument ID	: VOA117		**Calibration Date**	: 06/17/21 04:26	
Lab File ID	: V17210617A01		**Init. Calib. Date(s)**	: 05/27/21	05/27/21
Sample No	: WG1513313-2		**Init. Calib. Times**	: 04:16	07:44
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.316	1.405	-	-6.8	20	123	0
n-Butylbenzene	1.918	2.014	-	-5	20	122	0
1,2-Dichlorobenzene	1.036	1.039	-	-0.3	20	121	0
1,2,4,5-Tetramethylbenzene	2.14	2.227	-	-4.1	20	120	0
1,2-Dibromo-3-chloropropan	0.065	0.062	-	4.6	20	107	0
1,3,5-Trichlorobenzene	0.85	0.913	-	-7.4	20	127	0
Hexachlorobutadiene	0.459	0.459	-	0	20	116	0
1,2,4-Trichlorobenzene	0.791	0.826	-	-4.4	20	125	0
Naphthalene	1.508	1.514	-	-0.4	20	115	0
1,2,3-Trichlorobenzene	0.714	0.717	-	-0.4	20	119	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2131755	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.000 P3T4	
Instrument ID	: VOA117		**Calibration Date**	: 06/17/21 15:42	
Lab File ID	: V17210617N01		**Init. Calib. Date(s)**	: 05/27/21	05/27/21
Sample No	: WG1513833-2		**Init. Calib. Times**	: 04:16	07:44
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	112	0
Dichlorodifluoromethane	0.21	0.111	-	47.1*	20	60	0
Chloromethane	0.326	0.21	-	35.6*	20	84	0
Vinyl chloride	0.167	0.156	-	6.6	20	119	0
Bromomethane	0.1	0.096*	-	4	20	126	0
Chloroethane	0.084	0.088*	-	-4.8	20	133	0
Trichlorofluoromethane	0.261	0.218	-	16.5	20	93	0
Ethyl ether	40	47.355	-	-18.4	20	140	0
1,1-Dichloroethene	0.157	0.146	-	7	20	107	0
Carbon disulfide	0.528	0.456	-	13.6	20	107	0
Freon-113	0.161	0.147	-	8.7	20	101	-.01
Acrolein	0.018	0.014*	-	22.2*	20	94	0
Methylene chloride	0.193	0.17	-	11.9	20	111	0
Acetone	40	32.615	-	18.5	20	100	0
trans-1,2-Dichloroethene	0.192	0.171	-	10.9	20	106	0
Methyl acetate	0.101	0.076*	-	24.8*	20	96	0
Methyl tert-butyl ether	0.415	0.365	-	12	20	101	0
tert-Butyl alcohol	0.015	0.012*	-	20	20	91	0
Diisopropyl ether	0.714	0.612	-	14.3	20	99	0
1,1-Dichloroethane	0.385	0.321	-	16.6	20	101	0
Halothane	0.139	0.129	-	7.2	20	106	0
Acrylonitrile	0.047	0.041*	-	12.8	20	96	0
Ethyl tert-butyl ether	0.6	0.524	-	12.7	20	99	0
Vinyl acetate	0.408	0.344	-	15.7	20	94	0
cis-1,2-Dichloroethene	0.214	0.189	-	11.7	20	107	0
2,2-Dichloropropane	0.318	0.258	-	18.9	20	93	0
Bromochloromethane	0.091	0.081	-	11	20	106	0
Cyclohexane	0.389	0.328	-	15.7	20	96	0
Chloroform	0.381	0.3	-	21.3*	20	98	0
Ethyl acetate	0.152	0.114	-	25*	20	92	0
Carbon tetrachloride	0.312	0.251	-	19.6	20	90	0
Tetrahydrofuran	40	33.579	-	16.1	20	92	0
Dibromofluoromethane	0.259	0.246	-	5	20	106	0
1,1,1-Trichloroethane	0.325	0.266	-	18.2	20	91	0
2-Butanone	40	30.941	-	22.6*	20	89	0
1,1-Dichloropropene	0.256	0.224	-	12.5	20	99	0
Benzene	0.748	0.654	-	12.6	20	106	0
tert-Amyl methyl ether	0.422	0.38	-	10	20	102	0
1,2-Dichloroethane-d4	0.267	0.23	-	13.9	20	94	0
1,2-Dichloroethane	0.269	0.201	-	25.3*	20	88	0
Methyl cyclohexane	0.318	0.287	-	9.7	20	104	0
Trichloroethene	0.207	0.179*	-	13.5	20	102	0
Dibromomethane	0.1	0.083	-	17	20	97	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2131755	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.000 P3T4	
Instrument ID	: VOA117		**Calibration Date**	: 06/17/21 15:42	
Lab File ID	: V17210617N01		**Init. Calib. Date(s)**	: 05/27/21	05/27/21
Sample No	: WG1513833-2		**Init. Calib. Times**	: 04:16	07:44
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.217	0.182	-	16.1	20	103	0
2-Chloroethyl vinyl ether	0.097	0.083	-	14.4	20	95	0
Bromodichloromethane	0.271	0.22	-	18.8	20	95	0
1,4-Dioxane	0.00173	0.00156*	-	9.8	20	93	0
cis-1,3-Dichloropropene	0.292	0.256	-	12.3	20	100	0
Chlorobenzene-d5	1	1	-	0	20	105	0
Toluene-d8	1.266	1.31	-	-3.5	20	108	0
Toluene	0.652	0.57	-	12.6	20	105	0
4-Methyl-2-pentanone	40	33.894	-	15.3	20	95	0
Tetrachloroethene	0.265	0.261	-	1.5	20	103	0
trans-1,3-Dichloropropene	0.315	0.291	-	7.6	20	98	0
Ethyl methacrylate	0.204	0.196	-	3.9	20	101	0
1,1,2-Trichloroethane	0.149	0.136	-	8.7	20	104	0
Chlorodibromomethane	0.233	0.218	-	6.4	20	98	0
1,3-Dichloropropane	0.303	0.281	-	7.3	20	101	0
1,2-Dibromoethane	0.165	0.162	-	1.8	20	100	0
2-Hexanone	0.114	0.094*	-	17.5	20	89	0
Chlorobenzene	0.717	0.658	-	8.2	20	105	0
Ethylbenzene	1.195	1.103	-	7.7	20	103	0
1,1,1,2-Tetrachloroethane	0.254	0.243	-	4.3	20	101	0
p/m Xylene	0.457	0.432	-	5.5	20	106	0
o Xylene	0.433	0.412	-	4.8	20	106	0
Styrene	0.719	0.683	-	5	20	107	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	104	0
Bromoform	0.247	0.235	-	4.9	20	98	0
Isopropylbenzene	2.3	2.192	-	4.7	20	103	0
4-Bromofluorobenzene	0.896	0.873	-	2.6	20	102	0
Bromobenzene	0.572	0.525	-	8.2	20	103	0
n-Propylbenzene	2.681	2.545	-	5.1	20	103	0
1,4-Dichlorobutane	0.701	0.602	-	14.1	20	94	0
1,1,2,2-Tetrachloroethane	0.374	0.35	-	6.4	20	100	0
4-Ethyltoluene	2.255	2.134	-	5.4	20	104	0
2-Chlorotoluene	1.595	1.478	-	7.3	20	104	0
1,3,5-Trimethylbenzene	1.941	1.817	-	6.4	20	103	0
1,2,3-Trichloropropane	0.305	0.265	-	13.1	20	95	0
trans-1,4-Dichloro-2-buten	0.134	0.11	-	17.9	20	85	0
4-Chlorotoluene	1.67	1.524	-	8.7	20	103	0
tert-Butylbenzene	1.734	1.631	-	5.9	20	102	0
1,2,4-Trimethylbenzene	1.935	1.799	-	7	20	104	0
sec-Butylbenzene	2.536	2.394	-	5.6	20	103	0
p-Isopropyltoluene	2.216	2.105	-	5	20	104	0
1,3-Dichlorobenzene	1.139	1.073	-	5.8	20	106	0
1,4-Dichlorobenzene	1.137	1.052	-	7.5	20	106	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2131755	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032.000 P3T4	
Instrument ID	: VOA117		**Calibration Date**	: 06/17/21 15:42	
Lab File ID	: V17210617N01		**Init. Calib. Date(s)**	: 05/27/21	05/27/21
Sample No	: WG1513833-2		**Init. Calib. Times**	: 04:16	07:44
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.316	1.285	-	2.4	20	106	0
n-Butylbenzene	1.918	1.863	-	2.9	20	107	0
1,2-Dichlorobenzene	1.036	0.954	-	7.9	20	105	0
1,2,4,5-Tetramethylbenzene	2.14	2.037	-	4.8	20	104	0
1,2-Dibromo-3-chloropropan	0.065	0.058	-	10.8	20	95	0
1,3,5-Trichlorobenzene	0.85	0.821	-	3.4	20	108	0
Hexachlorobutadiene	0.459	0.426	-	7.2	20	102	0
1,2,4-Trichlorobenzene	0.791	0.743	-	6.1	20	106	0
Naphthalene	1.508	1.424	-	5.6	20	102	0
1,2,3-Trichlorobenzene	0.714	0.66	-	7.6	20	104	0

*** Value outside of QC limits.**

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2131755
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032.000 P3T4
Instrument ID	: PEST20	**Analysis Date**	: 06/18/21 09:00
PEM Standard	: R1447824-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	0	0
Endrin	94377919.75	81416662.125
4,4'-DDD	107510.76599	89934.38483
4,4'-DDT	162755257.76625	152019874.20278
Endrin Aldehyde	302797.81279	277608.43054
Endrin Ketone	2782952.24855	275017.42315

Parameter	%Breakdown 1	%Breakdown 2
Endrin	3.17	0.674
DDT	0.0660	0.0591

APPENDIX B

REVISED JUNE 2021 CONTAINED-IN DETERMINATION

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

July 22, 2021

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination for Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), TRC is submitting a revised "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742[1]
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

The information presented below was submitted to the Massachusetts Department of Environmental Protection (MassDEP) on June 3rd, 2021 and the Contained-In Determination was presumptively approved on June 23rd, 2021. After additional review, MBTA identified a typographic error in the June 3rd, 2021 submittal that stated that the Contained-In applied to "co-mingled" soil, which is not accurate. This revised Contained-In Determination is being resubmitted to correct the typographic error, however the pertinent information in the initial submittal has not been changed and it is the LSP's opinion that the initial timeline (e.g., presumptive approval on 6/24/2021) still applies.

By: _____ 7/22/2021
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

July 22, 2021

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination for Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil that originated from the following M.G.L. c. 21E disposal site:

RTN:	3-34742
Site Name:	MBTA Green Line Extension
Street Address:	132 Washington Street
City/Town:	Somerville, MA
Zip Code:	02145

Soils containing hazardous wastes from RTN 3-34742 are being generated to facilitate construction of the Green Line Extension (GLX) Project at the Washington Street Pump Station and on the MBTA Right of Way (ROW). RTN 3-34742 is a downgradient property status RTN that represents the portion of the GLX Project that is within the disposal site boundary of RTN 3-23246.

The soil contained the listed hazardous waste(s) with waste code: U210, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

- ☒ Met all applicable S-1 standards upon removal*; or
- ☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized in-situ and ex-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

Table 1-1
Summary of Detected Listed Waste within Contained-In Determination

Stockpile ID	Sample ID	Sample Date	Substance	Results ppm	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
N/A	GLC-WASHPS-40821-DC-VOC (1'-2')	4/8/2021	Tetrachloroethene (127-18-4)	0.0024	1 ppm	10 ppm	30 ppm
Washps-04122021	GLC-WASHPS-041221-DC-VOC-6	4/23/2021		0.001			
OCSDrillspoils-20210329	GLC-OSCDRILLSPOILS-210329-DC-VOC-8	4/23/2021		0.00056			

Tetrachloroethene (PCE) - Analytical results ranged from 0.00056 mg/kg to 0.0024 mg/kg (below S-1 standards). The three samples in the table above are included in this proposed contained-In determination.

Sample GLC-WASHPS-40821-DC-VOC (1'-2') was collected in-situ from the sidewall of a zero- to two-foot-deep utility trench to characterize the soil generated in the vicinity from the same trench. Samples GLC-WASHPS-041221-DC-VOC-6 and GLC-OSCDRILLSPOILS-210329-DC-VOC-8 were collected from stockpiles generated from the pump station utility installations and from overhead catenary system installations from approximately 5 to 20 feet below ground surface (bgs), below the previously pre-characterized depth on the MBTA ROW of 0 to 5 feet bgs. For both the in-situ and stockpile samples, a field geologist screened soils from eight discreet locations with a photoionization detector (PID) during sampling. As there were no total volatile organic compounds (TVOC) readings detected, the discrete location with the densest soils was collected as a grab sample for volatile organic compound (VOC) analysis. The sampled stockpiles and generated in-situ material are covered in polyethylene sheeting and marked with a sign. The location, size, source, and date of generation for each stockpile are also tracked using a geographic information system (GIS) application created for the project. Stockpile and in-situ sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil.

The samples included in this contained-in determination represent a volume of up to 360 cubic yards. Analytical data for the eligible samples is provided in **Table 1**, and associated laboratory results are provided in **Appendix A**. The in-situ and stockpile generation locations are shown in **Figure 1**. Stockpile generation, labelling and covering was overseen by a Licensed Site Professional (LSP) representative. The sampled stockpiles' staging locations on site at the time of sampling is shown in **Figure 2**.

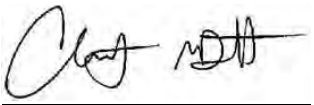
Soils from the Washington Street Pump Station were previously included in a Contained-In Determination that was submitted to MassDEP in December 2014 due to detectable PCE and trichloroethene (TCE) below Massachusetts Contingency Plan (MCP) S-1 standards. To meet current performance standards and to be consistent with on-going project soil management practices, this Contained-In Determination was prepared with updated characterization data to facilitate the disposal of soil. Stockpiles

generated from manholes within the Washington Street Pump Station were also included in a Contained-In Determination that was submitted to MassDEP in September 2020. The PCE detections in samples GLC-WASHPS-40821-DC-VOC (1'-2') and GLC-WASHPS-041221-DC-VOC-6 are consistent PCE detections previously detected at the pump station. Soils from the MBTA ROW were also previously included in a Contained-In that was submitted to MassDEP in January 2020, however as noted above, stockpile OCSDrillspoils-20210329 was generated below the pre-characterized depth. The December 2014, January 2020 and September 2020 Contained-In Determinations are attached as **Appendix B, Appendix C and Appendix D** and are available on MassDEP's online database under transaction IDs 706656, 1167364 and 1221372, respectively.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By:  7/22/2021
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments

Figure 1 –Stockpile Generation Locations
Figure 2 –Stockpile Staging Locations
Table 1 – Summary of Soil Sample Analytical Results
Appendix A – Laboratory Reports
Appendix B – December 2014 Contained-In
Appendix C – January 2020 Contained-In
Appendix D – September 2020 Contained-In

FIGURES

Figure 1 - Generation Locations

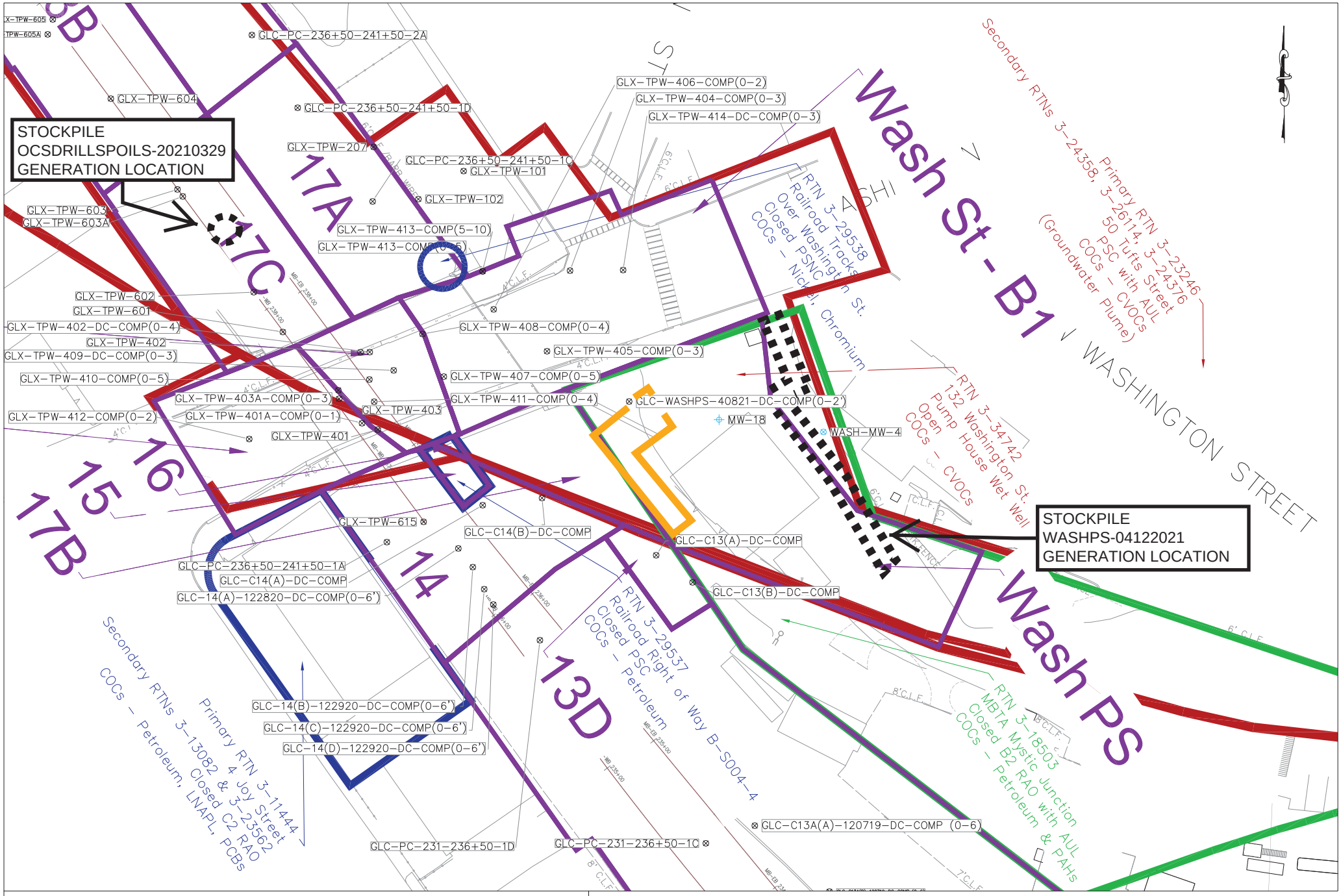
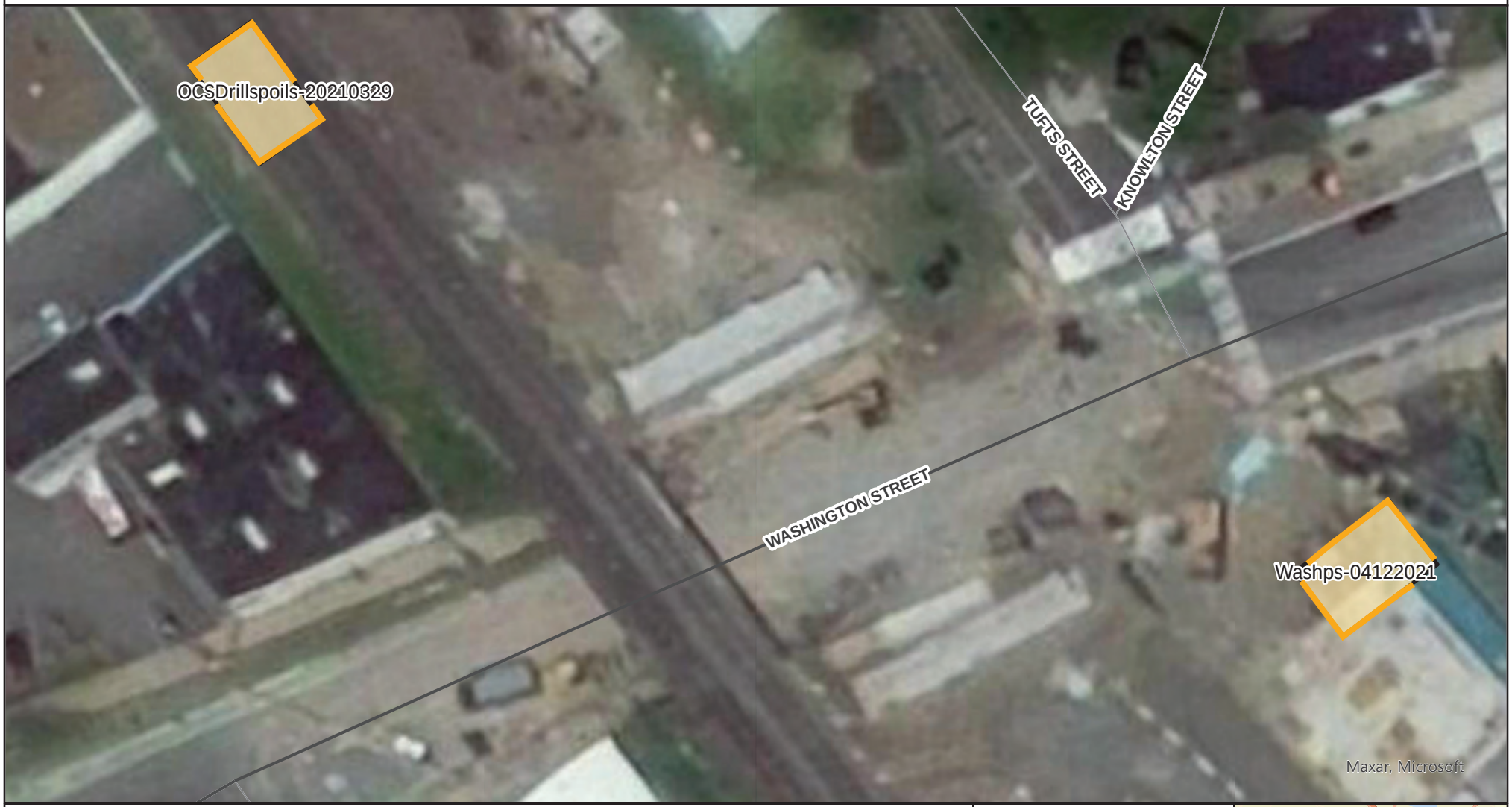


Figure 2: Stockpile Locations



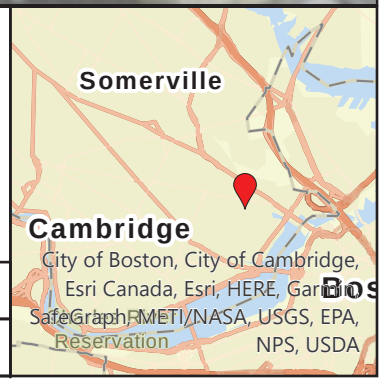
Legend

Stockpile relevant to Contained-In Determination

0 15 30 Feet

DRAWN BY: JCM | CHECKED BY: LV

DATE: 05/03/2021



TABLES

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
April 8, 2021 and April 23, 2021

						LOCATION	GLC-WASHPS-40821-DC-VOC (1'-2')	
						SAMPLING DATE	4/8/2021	
						LAB SAMPLE ID	L2117825-01	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0038	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.00077	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0012	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.00077	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.00077	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00077	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.00077	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0024	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00038	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0031	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.00077	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00038	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00038	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00077	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00038	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00038	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00038	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0031	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00038	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00038	U
	Toluene	108-88-3	30	500	500	mg/kg	0.00079	
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.00077	U
	Chloromethane	74-87-3				mg/kg	0.0031	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0015	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.00077	U
	Chloroethane	75-00-3				mg/kg	0.0015	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.00077	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0012	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00038	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0015	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0015	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0015	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0015	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0015	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.00077	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.00077	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.00077	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.00077	U
	Dibromomethane	74-95-3				mg/kg	0.0015	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0015	U
	Styrene	100-42-5	3	4	70	mg/kg	0.00077	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0077	U
	Acetone	67-64-1	6	50	400	mg/kg	0.019	U
	Carbon disulfide	75-15-0				mg/kg	0.0077	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.0077	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.0077	U
	2-Hexanone	591-78-6				mg/kg	0.0077	U
	Bromochloromethane	74-97-5				mg/kg	0.0015	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0031	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0015	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00077	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0015	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00038	U
	Bromobenzene	108-86-1				mg/kg	0.0015	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.00077	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.00077	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0015	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0015	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0023	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0031	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.00077	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.00077	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0031	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.00077	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0015	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0015	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	Diethyl ether	60-29-7				mg/kg	0.0015	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0015	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0015	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0015	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.062	U
	Total VOCs					mg/kg	0.00319	

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
April 8, 2021 and April 23, 2021

						LOCATION	GLC-WASHPS-041221-DC-VOC-6	
						SAMPLING DATE	4/23/2021	
						LAB SAMPLE ID	L2120940-02	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0042	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.00083	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0012	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.00083	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.00083	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00083	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.00083	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.001	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00042	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0033	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.00083	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00042	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00042	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00083	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00042	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00042	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00042	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0033	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00042	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00042	U
	Toluene	108-88-3	30	500	500	mg/kg	0.00083	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.00083	U
	Chloromethane	74-87-3				mg/kg	0.0033	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0017	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.00083	U
	Chloroethane	75-00-3				mg/kg	0.0017	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.00083	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0012	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00042	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0017	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0017	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0017	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0017	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0017	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.00083	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.00083	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.00083	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.00083	U
	Dibromomethane	74-95-3				mg/kg	0.0017	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0017	U
	Styrene	100-42-5	3	4	70	mg/kg	0.00083	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0083	U
	Acetone	67-64-1	6	50	400	mg/kg	0.036	
	Carbon disulfide	75-15-0				mg/kg	0.0083	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.0083	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.0083	U
	2-Hexanone	591-78-6				mg/kg	0.0083	U
	Bromochloromethane	74-97-5				mg/kg	0.0017	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0033	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0017	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00083	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0017	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00042	U
	Bromobenzene	108-86-1				mg/kg	0.0017	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.00083	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.00083	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0017	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0017	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0017	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0025	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0033	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.00083	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.00083	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0033	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.00083	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0017	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0017	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0017	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0017	U
	Diethyl ether	60-29-7				mg/kg	0.0017	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0017	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0017	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0017	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.066	U
	Total VOCs					mg/kg	0.037	

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
April 8, 2021 and April 23, 2021

						LOCATION	GLC-OSCDRILLSPOILS-210329-DC-VOC-8	
						SAMPLING DATE	4/23/2021	
						LAB SAMPLE ID	L2120940-04	
						SAMPLE TYPE	SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual
MCP Volatile Organics by EPA 5035								
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0038	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.00076	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0011	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.00076	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.00076	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00076	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.00076	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.00056	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00038	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.003	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.00076	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00038	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00038	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00076	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00038	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00038	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00038	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.003	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00038	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00038	U
	Toluene	108-88-3	30	500	500	mg/kg	0.00076	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.00076	U
	Chloromethane	74-87-3				mg/kg	0.003	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0015	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.00076	U
	Chloroethane	75-00-3				mg/kg	0.0015	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.00076	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0011	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00038	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0015	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0015	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0015	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0015	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0015	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.00076	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.00076	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.00076	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.00076	U
	Dibromomethane	74-95-3				mg/kg	0.0015	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0015	U
	Styrene	100-42-5	3	4	70	mg/kg	0.00076	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0076	U
	Acetone	67-64-1	6	50	400	mg/kg	0.02	
	Carbon disulfide	75-15-0				mg/kg	0.0076	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.0076	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.0076	U
	2-Hexanone	591-78-6				mg/kg	0.0076	U
	Bromochloromethane	74-97-5				mg/kg	0.0015	U
	Tetrahydrofuran	109-99-9				mg/kg	0.003	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0015	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00076	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0015	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00038	U
	Bromobenzene	108-86-1				mg/kg	0.0015	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.00076	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.00076	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	o-Chlorotoluene	95-49-8				mg/kg	0.0015	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0015	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0023	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.003	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.00076	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.00076	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.003	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.00076	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0015	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0015	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0015	U
	Diethyl ether	60-29-7				mg/kg	0.0015	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0015	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0015	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0015	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.061	U
	Total VOCs					mg/kg	0.02056	

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

APPENDIX A
LAB REPORTS

ANALYTICAL REPORT

Lab Number:	L2117825
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0032 PH3 TK4
Report Date:	04/15/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2117825-01	GLC-WASHPS-40821-DC-VOC (1'-2')	SOIL	SOMERVILLE, MA	04/08/21 12:19	04/08/21
~~L2117825-02~~	~~GLC-WASHPS-40821-DC-COMP (0-2')~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~04/08/21 12:19~~	~~04/08/21~~

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2117825
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/15/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2117825
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/15/21

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L2117825-02: The Client ID was changed at the client's request.

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2117825-01 and -01R: Initial calibration utilized a quadratic fit for: bromomethane, bromoform

In reference to question H:

L2117825-01: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (48%) and the surrogate recovery for 4-bromofluorobenzene (131%) were outside the acceptance criteria; however, re-analysis achieved similar results: 1,4-dichlorobenzene-d4 (48%) and 4-bromofluorobenzene (131%). The results of both analyses are reported; however, since the IS response was below method criteria, all associated compounds and surrogate recoveries are considered to have a potentially high bias.

The WG1485963-3/-4 LCS/LCSD recoveries, associated with L2117825-01, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially high bias for bromomethane (143%/143%) and diisopropyl ether (LCSD 135%) and a potentially low bias for dichlorodifluoromethane (51%/51%).

The WG1485963-8/-9 LCS/LCSD recoveries, associated with L2117825-01R, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially high bias for bromomethane (136%/134%) and diisopropyl ether (134%/134%) and a potentially low bias for dichlorodifluoromethane (54%/52%).

L2117825-01 and -01R: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 2-butanone (0.0716), 1,4-dioxane (0.0019), 4-methyl-2-pentanone (0.0930)

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2117825
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/15/21

Case Narrative (continued)

Average Response Factor: 2-butanone, 1,4-dioxane, 4-methyl-2-pentanone

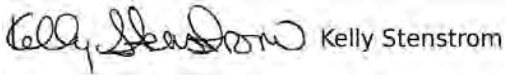
Verification: bromomethane (143%)

L2117825-01 and -01R: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Pesticides

WG1485944-1: The initial calibration utilized a quadratic fit for chlordane.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Kelly Stenstrom

Title: Technical Director/Representative Date: 04/15/21

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	GLC-WASHPS-40821-DC-VOC (1'-2')	L2117825-01	4-Bromofluorobenzene	Surrogate	131	70-130	-	potential high bias
8260C	GLC-WASHPS-40821-DC-VOC (1'-2')	L2117825-01 R	4-Bromofluorobenzene	Surrogate	131	70-130	-	potential high bias
8260C	Batch QC	WG1485963-3	Bromomethane	LCS	143	70-130	01	potential high bias
8260C	Batch QC	WG1485963-3	Dichlorodifluoromethane	LCS	51	70-130	01	potential low bias
8260C	Batch QC	WG1485963-4	Bromomethane	LCSD	143	70-130	01	potential high bias
8260C	Batch QC	WG1485963-4	Dichlorodifluoromethane	LCSD	51	70-130	01	potential low bias
8260C	Batch QC	WG1485963-4	Diisopropyl Ether	LCSD	135	70-130	01	potential high bias
8260C	Batch QC	WG1485963-8	Bromomethane	LCS	136	70-130	01	potential high bias
8260C	Batch QC	WG1485963-8	Dichlorodifluoromethane	LCS	54	70-130	01	potential low bias
8260C	Batch QC	WG1485963-8	Diisopropyl Ether	LCS	134	70-130	01	potential high bias
8260C	Batch QC	WG1485963-9	Bromomethane	LCSD	134	70-130	01	potential high bias
8260C	Batch QC	WG1485963-9	Dichlorodifluoromethane	LCSD	52	70-130	01	potential low bias
8260C	Batch QC	WG1485963-9	Diisopropyl Ether	LCSD	134	70-130	01	potential high bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

SAMPLE RESULTS

Lab ID: L2117825-01
Client ID: GLC-WASHPS-40821-DC-VOC (1'-2')
Sample Location: SOMERVILLE, MA

Date Collected: 04/08/21 12:19
Date Received: 04/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 04/14/21 00:25
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.77	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.77	--	1
1,2-Dichloropropane	ND		ug/kg	0.77	--	1
Dibromochloromethane	ND		ug/kg	0.77	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.77	--	1
Tetrachloroethene	2.4		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.1	--	1
1,2-Dichloroethane	ND		ug/kg	0.77	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.77	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	ND		ug/kg	0.38	--	1
Toluene	0.79		ug/kg	0.77	--	1
Ethylbenzene	ND		ug/kg	0.77	--	1
Chloromethane	ND		ug/kg	3.1	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.77	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.77	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

SAMPLE RESULTS

Lab ID: L2117825-01 Date Collected: 04/08/21 12:19

Client ID: GLC-WASHPS-40821-DC-VOC (1'-2') Date Received: 04/08/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.77	--	1
Xylenes, Total	ND		ug/kg	0.77	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.77	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.77	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.77	--	1
Dichlorodifluoromethane	ND		ug/kg	7.7	--	1
Acetone	ND		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.7	--	1
Methyl ethyl ketone	ND		ug/kg	7.7	--	1
Methyl isobutyl ketone	ND		ug/kg	7.7	--	1
2-Hexanone	ND		ug/kg	7.7	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.1	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.77	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.77	--	1
sec-Butylbenzene	ND		ug/kg	0.77	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.1	--	1
Isopropylbenzene	ND		ug/kg	0.77	--	1
p-Isopropyltoluene	ND		ug/kg	0.77	--	1
Naphthalene	ND		ug/kg	3.1	--	1
n-Propylbenzene	ND		ug/kg	0.77	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

SAMPLE RESULTS

Lab ID: L2117825-01 Date Collected: 04/08/21 12:19

Client ID: GLC-WASHPS-40821-DC-VOC (1'-2') Date Received: 04/08/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	62	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	113		70-130
4-Bromofluorobenzene	**131**	Q	70-130
Dibromofluoromethane	102		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

SAMPLE RESULTS

Lab ID: L2117825-01 R
Client ID: GLC-WASHPS-40821-DC-VOC (1'-2')
Sample Location: SOMERVILLE, MA

Date Collected: 04/08/21 12:19
Date Received: 04/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 04/14/21 12:26
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.0	--	1
1,1-Dichloroethane	ND		ug/kg	0.80	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.80	--	1
1,2-Dichloropropane	ND		ug/kg	0.80	--	1
Dibromochloromethane	ND		ug/kg	0.80	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.80	--	1
Tetrachloroethene	1.1		ug/kg	0.40	--	1
Chlorobenzene	ND		ug/kg	0.40	--	1
Trichlorofluoromethane	ND		ug/kg	3.2	--	1
1,2-Dichloroethane	ND		ug/kg	0.80	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.40	--	1
Bromodichloromethane	ND		ug/kg	0.40	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.80	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.40	--	1
1,1-Dichloropropene	ND		ug/kg	0.40	--	1
Bromoform	ND		ug/kg	3.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.40	--	1
Benzene	ND		ug/kg	0.40	--	1
Toluene	ND		ug/kg	0.80	--	1
Ethylbenzene	ND		ug/kg	0.80	--	1
Chloromethane	ND		ug/kg	3.2	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.80	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.80	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

SAMPLE RESULTS

Lab ID: L2117825-01 R
Client ID: GLC-WASHPS-40821-DC-VOC (1'-2')
Sample Location: SOMERVILLE, MA

Date Collected: 04/08/21 12:19
Date Received: 04/08/21
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.40	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.80	--	1
Xylenes, Total	ND		ug/kg	0.80	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.80	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.80	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.80	--	1
Dichlorodifluoromethane	ND		ug/kg	8.0	--	1
Acetone	ND		ug/kg	20	--	1
Carbon disulfide	ND		ug/kg	8.0	--	1
Methyl ethyl ketone	ND		ug/kg	8.0	--	1
Methyl isobutyl ketone	ND		ug/kg	8.0	--	1
2-Hexanone	ND		ug/kg	8.0	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.2	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.80	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.40	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.80	--	1
sec-Butylbenzene	ND		ug/kg	0.80	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.4	--	1
Hexachlorobutadiene	ND		ug/kg	3.2	--	1
Isopropylbenzene	ND		ug/kg	0.80	--	1
p-Isopropyltoluene	ND		ug/kg	0.80	--	1
Naphthalene	ND		ug/kg	3.2	--	1
n-Propylbenzene	ND		ug/kg	0.80	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

SAMPLE RESULTS

Lab ID: L2117825-01 R
Client ID: GLC-WASHPS-40821-DC-VOC (1'-2')
Sample Location: SOMERVILLE, MA

Date Collected: 04/08/21 12:19
Date Received: 04/08/21
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	64	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	**131**	Q	70-130
Dibromofluoromethane	100		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/14/21 11:47
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1485963-10					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/14/21 11:47
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1485963-10					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2117825
Report Date: 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/14/21 11:47
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1485963-10					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/13/21 20:30
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1485963-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/13/21 20:30
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1485963-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2117825
Report Date: 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/13/21 20:30
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1485963-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1485963-3 WG1485963-4								
Methylene chloride	95		96		70-130	1		20
1,1-Dichloroethane	115		116		70-130	1		20
Chloroform	104		107		70-130	3		20
Carbon tetrachloride	84		89		70-130	6		20
1,2-Dichloropropane	109		113		70-130	4		20
Dibromochloromethane	90		96		70-130	6		20
1,1,2-Trichloroethane	101		104		70-130	3		20
Tetrachloroethene	86		86		70-130	0		20
Chlorobenzene	96		96		70-130	0		20
Trichlorofluoromethane	92		94		70-130	2		20
1,2-Dichloroethane	111		114		70-130	3		20
1,1,1-Trichloroethane	98		102		70-130	4		20
Bromodichloromethane	98		104		70-130	6		20
trans-1,3-Dichloropropene	105		110		70-130	5		20
cis-1,3-Dichloropropene	102		107		70-130	5		20
1,1-Dichloropropene	102		102		70-130	0		20
Bromoform	81		89		70-130	9		20
1,1,2,2-Tetrachloroethane	97		101		70-130	4		20
Benzene	100		102		70-130	2		20
Toluene	98		98		70-130	0		20
Ethylbenzene	103		102		70-130	1		20
Chloromethane	122		124		70-130	2		20
Bromomethane	**143**	Q	**143**	Q	70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1485963-3 WG1485963-4								
Vinyl chloride	100		100		70-130	0		20
Chloroethane	103		104		70-130	1		20
1,1-Dichloroethene	96		96		70-130	0		20
trans-1,2-Dichloroethene	95		96		70-130	1		20
Trichloroethene	99		101		70-130	2		20
1,2-Dichlorobenzene	95		96		70-130	1		20
1,3-Dichlorobenzene	97		97		70-130	0		20
1,4-Dichlorobenzene	97		97		70-130	0		20
Methyl tert butyl ether	103		107		70-130	4		20
p/m-Xylene	100		99		70-130	1		20
o-Xylene	99		100		70-130	1		20
cis-1,2-Dichloroethene	97		99		70-130	2		20
Dibromomethane	102		106		70-130	4		20
1,2,3-Trichloropropane	101		104		70-130	3		20
Styrene	103		103		70-130	0		20
Dichlorodifluoromethane	**51**	Q	**51**	Q	70-130	0		20
Acetone	112		119		70-130	6		20
Carbon disulfide	97		97		70-130	0		20
Methyl ethyl ketone	124		129		70-130	4		20
Methyl isobutyl ketone	108		113		70-130	5		20
2-Hexanone	113		120		70-130	6		20
Bromochloromethane	95		97		70-130	2		20
Tetrahydrofuran	117		122		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1485963-3 WG1485963-4								
2,2-Dichloropropane	104		106		70-130	2		20
1,2-Dibromoethane	95		98		70-130	3		20
1,3-Dichloropropane	103		105		70-130	2		20
1,1,1,2-Tetrachloroethane	92		96		70-130	4		20
Bromobenzene	92		92		70-130	0		20
n-Butylbenzene	109		109		70-130	0		20
sec-Butylbenzene	93		93		70-130	0		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	105		105		70-130	0		20
p-Chlorotoluene	107		107		70-130	0		20
1,2-Dibromo-3-chloropropane	78		86		70-130	10		20
Hexachlorobutadiene	86		86		70-130	0		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	93		97		70-130	4		20
n-Propylbenzene	107		106		70-130	1		20
1,2,3-Trichlorobenzene	91		93		70-130	2		20
1,2,4-Trichlorobenzene	94		96		70-130	2		20
1,3,5-Trimethylbenzene	103		103		70-130	0		20
1,2,4-Trimethylbenzene	104		104		70-130	0		20
Diethyl ether	101		104		70-130	3		20
Diisopropyl Ether	130		**135**	Q	70-130	4		20
Ethyl-Tert-Butyl-Ether	120		124		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825

Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1485963-3 WG1485963-4								
Tertiary-Amyl Methyl Ether	106		110		70-130	4		20
1,4-Dioxane	98		106		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		111		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	105		106		70-130
Dibromofluoromethane	98		100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1485963-8 WG1485963-9								
Methylene chloride	95		93		70-130	2		20
1,1-Dichloroethane	117		115		70-130	2		20
Chloroform	105		103		70-130	2		20
Carbon tetrachloride	86		89		70-130	3		20
1,2-Dichloropropane	112		110		70-130	2		20
Dibromochloromethane	90		93		70-130	3		20
1,1,2-Trichloroethane	101		100		70-130	1		20
Tetrachloroethene	87		84		70-130	4		20
Chlorobenzene	94		92		70-130	2		20
Trichlorofluoromethane	95		92		70-130	3		20
1,2-Dichloroethane	113		111		70-130	2		20
1,1,1-Trichloroethane	100		100		70-130	0		20
Bromodichloromethane	99		101		70-130	2		20
trans-1,3-Dichloropropene	106		107		70-130	1		20
cis-1,3-Dichloropropene	103		104		70-130	1		20
1,1-Dichloropropene	105		102		70-130	3		20
Bromoform	81		88		70-130	8		20
1,1,2,2-Tetrachloroethane	96		98		70-130	2		20
Benzene	101		99		70-130	2		20
Toluene	98		94		70-130	4		20
Ethylbenzene	103		100		70-130	3		20
Chloromethane	124		121		70-130	2		20
Bromomethane	**136**	Q	**134**	Q	70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1485963-8 WG1485963-9								
Vinyl chloride	103		101		70-130	2		20
Chloroethane	105		102		70-130	3		20
1,1-Dichloroethene	96		94		70-130	2		20
trans-1,2-Dichloroethene	95		93		70-130	2		20
Trichloroethene	100		98		70-130	2		20
1,2-Dichlorobenzene	93		92		70-130	1		20
1,3-Dichlorobenzene	94		94		70-130	0		20
1,4-Dichlorobenzene	95		94		70-130	1		20
Methyl tert butyl ether	101		102		70-130	1		20
p/m-Xylene	99		97		70-130	2		20
o-Xylene	98		96		70-130	2		20
cis-1,2-Dichloroethene	98		96		70-130	2		20
Dibromomethane	102		102		70-130	0		20
1,2,3-Trichloropropane	101		102		70-130	1		20
Styrene	102		99		70-130	3		20
Dichlorodifluoromethane	**54**	Q	**52**	Q	70-130	4		20
Acetone	119		114		70-130	4		20
Carbon disulfide	97		96		70-130	1		20
Methyl ethyl ketone	124		126		70-130	2		20
Methyl isobutyl ketone	107		109		70-130	2		20
2-Hexanone	117		117		70-130	0		20
Bromochloromethane	93		92		70-130	1		20
Tetrahydrofuran	118		119		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1485963-8 WG1485963-9								
2,2-Dichloropropane	103		104		70-130	1		20
1,2-Dibromoethane	95		94		70-130	1		20
1,3-Dichloropropane	103		101		70-130	2		20
1,1,1,2-Tetrachloroethane	89		91		70-130	2		20
Bromobenzene	88		90		70-130	2		20
n-Butylbenzene	113		111		70-130	2		20
sec-Butylbenzene	92		91		70-130	1		20
tert-Butylbenzene	98		98		70-130	0		20
o-Chlorotoluene	104		104		70-130	0		20
p-Chlorotoluene	104		105		70-130	1		20
1,2-Dibromo-3-chloropropane	80		83		70-130	4		20
Hexachlorobutadiene	84		83		70-130	1		20
Isopropylbenzene	99		99		70-130	0		20
p-Isopropyltoluene	100		99		70-130	1		20
Naphthalene	92		94		70-130	2		20
n-Propylbenzene	106		106		70-130	0		20
1,2,3-Trichlorobenzene	88		89		70-130	1		20
1,2,4-Trichlorobenzene	93		93		70-130	0		20
1,3,5-Trimethylbenzene	102		100		70-130	2		20
1,2,4-Trimethylbenzene	102		101		70-130	1		20
Diethyl ether	100		101		70-130	1		20
Diisopropyl Ether	**134**	Q	**134**	Q	70-130	0		20
Ethyl-Tert-Butyl-Ether	121		120		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825

Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1485963-8 WG1485963-9								
Tertiary-Amyl Methyl Ether	107		106		70-130	1		20
1,4-Dioxane	109		104		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	111		111		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	105		108		70-130
Dibromofluoromethane	99		98		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2117825
Report Date: 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 04/15/21 12:09
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 04/14/21 18:39

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1486326-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	170	--
Hexachlorobenzene	ND		ug/kg	70	--
Bis(2-chloroethyl)ether	ND		ug/kg	70	--
2-Chloronaphthalene	ND		ug/kg	170	--
1,2-Dichlorobenzene	ND		ug/kg	170	--
1,3-Dichlorobenzene	ND		ug/kg	170	--
1,4-Dichlorobenzene	ND		ug/kg	70	--
3,3'-Dichlorobenzidine	ND		ug/kg	170	--
2,4-Dinitrotoluene	ND		ug/kg	70	--
2,6-Dinitrotoluene	ND		ug/kg	170	--
Azobenzene	ND		ug/kg	170	--
Fluoranthene	ND		ug/kg	100	--
4-Bromophenyl phenyl ether	ND		ug/kg	170	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	70	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	170	--
Hexachloroethane	ND		ug/kg	70	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	170	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	--
Butyl benzyl phthalate	ND		ug/kg	170	--
Di-n-butylphthalate	ND		ug/kg	170	--
Di-n-octylphthalate	ND		ug/kg	170	--
Diethyl phthalate	ND		ug/kg	170	--
Dimethyl phthalate	ND		ug/kg	70	--
Benzo(a)anthracene	ND		ug/kg	100	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2117825
Report Date: 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 04/15/21 12:09
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 04/14/21 18:39

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1486326-1					
Benzo(b)fluoranthene	ND		ug/kg	100	--
Benzo(k)fluoranthene	ND		ug/kg	100	--
Chrysene	ND		ug/kg	100	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	100	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	170	--
Phenanthrene	ND		ug/kg	100	--
Dibenzo(a,h)anthracene	ND		ug/kg	70	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	100	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	170	--
Dibenzofuran	ND		ug/kg	170	--
2-Methylnaphthalene	ND		ug/kg	70	--
Acetophenone	ND		ug/kg	170	--
2,4,6-Trichlorophenol	ND		ug/kg	70	--
2-Chlorophenol	ND		ug/kg	70	--
2,4-Dichlorophenol	ND		ug/kg	70	--
2,4-Dimethylphenol	ND		ug/kg	70	--
2-Nitrophenol	ND		ug/kg	360	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	800	--
Pentachlorophenol	ND		ug/kg	330	--
Phenol	ND		ug/kg	170	--
2-Methylphenol	ND		ug/kg	170	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	170	--
Pyridine	ND		ug/kg	180	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 04/15/21 12:09
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 04/14/21 18:39

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 02 Batch: WG1486326-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	78		30-130
Phenol-d6	84		30-130
Nitrobenzene-d5	80		30-130
2-Fluorobiphenyl	91		30-130
2,4,6-Tribromophenol	84		30-130
4-Terphenyl-d14	81		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1486326-2 WG1486326-3								
Acenaphthene	87		88		40-140	1		30
1,2,4-Trichlorobenzene	74		76		40-140	3		30
Hexachlorobenzene	84		83		40-140	1		30
Bis(2-chloroethyl)ether	78		80		40-140	3		30
2-Chloronaphthalene	81		82		40-140	1		30
1,2-Dichlorobenzene	78		80		40-140	3		30
1,3-Dichlorobenzene	77		78		40-140	1		30
1,4-Dichlorobenzene	75		78		40-140	4		30
3,3'-Dichlorobenzidine	76		75		40-140	1		30
2,4-Dinitrotoluene	99		96		40-140	3		30
2,6-Dinitrotoluene	88		88		40-140	0		30
Azobenzene	90		89		40-140	1		30
Fluoranthene	91		93		40-140	2		30
4-Bromophenyl phenyl ether	84		82		40-140	2		30
Bis(2-chloroisopropyl)ether	78		79		40-140	1		30
Bis(2-chloroethoxy)methane	76		76		40-140	0		30
Hexachlorobutadiene	79		80		40-140	1		30
Hexachloroethane	77		78		40-140	1		30
Isophorone	78		79		40-140	1		30
Naphthalene	84		85		40-140	1		30
Nitrobenzene	80		84		40-140	5		30
Bis(2-ethylhexyl)phthalate	90		92		40-140	2		30
Butyl benzyl phthalate	94		95		40-140	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1486326-2 WG1486326-3								
Di-n-butylphthalate	90		91		40-140	1		30
Di-n-octylphthalate	88		89		40-140	1		30
Diethyl phthalate	86		84		40-140	2		30
Dimethyl phthalate	81		81		40-140	0		30
Benzo(a)anthracene	87		87		40-140	0		30
Benzo(a)pyrene	103		105		40-140	2		30
Benzo(b)fluoranthene	93		100		40-140	7		30
Benzo(k)fluoranthene	94		97		40-140	3		30
Chrysene	86		90		40-140	5		30
Acenaphthylene	81		82		40-140	1		30
Anthracene	90		92		40-140	2		30
Benzo(ghi)perylene	93		95		40-140	2		30
Fluorene	88		87		40-140	1		30
Phenanthrene	86		88		40-140	2		30
Dibenzo(a,h)anthracene	93		94		40-140	1		30
Indeno(1,2,3-cd)pyrene	93		95		40-140	2		30
Pyrene	89		90		40-140	1		30
Aniline	70		70		40-140	0		30
4-Chloroaniline	82		90		40-140	9		30
Dibenzofuran	85		85		40-140	0		30
2-Methylnaphthalene	81		83		40-140	2		30
Acetophenone	81		82		40-140	1		30
2,4,6-Trichlorophenol	86		87		30-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825

Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG1486326-2 WG1486326-3								
2-Chlorophenol	84		88		30-130	5		30
2,4-Dichlorophenol	82		82		30-130	0		30
2,4-Dimethylphenol	83		85		30-130	2		30
2-Nitrophenol	89		93		30-130	4		30
4-Nitrophenol	112		114		30-130	2		30
2,4-Dinitrophenol	89		87		30-130	2		30
Pentachlorophenol	94		94		30-130	0		30
Phenol	86		89		30-130	3		30
2-Methylphenol	86		88		30-130	2		30
3-Methylphenol/4-Methylphenol	90		92		30-130	2		30
2,4,5-Trichlorophenol	85		88		30-130	3		30
Pyridine	60		65		30-130	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	81		84		30-130
Phenol-d6	85		88		30-130
Nitrobenzene-d5	82		85		30-130
2-Fluorobiphenyl	81		82		30-130
2,4,6-Tribromophenol	95		93		30-130
4-Terphenyl-d14	85		85		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2117825
Report Date: 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 04/15/21 10:57
Analyst: SC

Extraction Method: EPA 3546
Extraction Date: 04/14/21 14:30

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 02 Batch: WG1486221-1					
TPH (C10-C36)	ND		ug/kg	31800	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	85		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825

Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 02 Batch: WG1486221-2								
TPH (C10-C36)	95		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	93				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2117825
Report Date: 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 04/11/21 09:34
Analyst: CW

Extraction Method: EPA 3540C
Extraction Date: 04/09/21 11:30
Cleanup Method: EPA 3665A
Cleanup Date: 04/10/21
Cleanup Method: EPA 3660B
Cleanup Date: 04/10/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 02 Batch: WG1484343-1						
Aroclor 1016	ND		ug/kg	32.0	--	A
Aroclor 1221	ND		ug/kg	32.0	--	A
Aroclor 1232	ND		ug/kg	32.0	--	A
Aroclor 1242	ND		ug/kg	32.0	--	A
Aroclor 1248	ND		ug/kg	32.0	--	A
Aroclor 1254	ND		ug/kg	32.0	--	A
Aroclor 1260	ND		ug/kg	32.0	--	A
Aroclor 1262	ND		ug/kg	32.0	--	A
Aroclor 1268	ND		ug/kg	32.0	--	A
PCBs, Total	ND		ug/kg	32.0	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	65		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	63		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 02 Batch: WG1484343-2 WG1484343-3									
Aroclor 1016	78		82		40-140	5		30	A
Aroclor 1260	80		82		40-140	2		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		59		30-150	B
Decachlorobiphenyl	57		56		30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		63		30-150	A
Decachlorobiphenyl	57		58		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2117825
Report Date: 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 04/10/21 15:27
Analyst: AR

Extraction Method: EPA 8151A
Extraction Date: 04/09/21 00:18

Methylation Date: 04/10/21 05:50

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 02 Batch: WG1484134-1						
MCPP	ND		ug/kg	3200	--	A
MCPA	ND		ug/kg	3200	--	A
Dalapon	ND		ug/kg	32	--	A
Dicamba	ND		ug/kg	32	--	A
Dichloroprop	ND		ug/kg	32	--	A
2,4-D	ND		ug/kg	32	--	A
2,4-DB	ND		ug/kg	32	--	A
2,4,5-T	ND		ug/kg	32	--	A
2,4,5-TP (Silvex)	ND		ug/kg	32	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	69		30-150	A
DCAA	72		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2117825
Report Date: 04/15/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 04/14/21 19:15
Analyst: SDC

Extraction Method: EPA 3546
Extraction Date: 04/14/21 04:10
Cleanup Method: EPA 3620B
Cleanup Date: 04/14/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 02 Batch: WG1485944-1						
Delta-BHC	ND		ug/kg	1.54	--	A
Lindane	ND		ug/kg	0.515	--	A
Alpha-BHC	ND		ug/kg	0.644	--	A
Beta-BHC	ND		ug/kg	1.54	--	A
Heptachlor	ND		ug/kg	0.772	--	A
Aldrin	ND		ug/kg	1.54	--	A
Heptachlor epoxide	ND		ug/kg	2.90	--	A
Endrin	ND		ug/kg	0.644	--	A
Endrin ketone	ND		ug/kg	1.54	--	A
Dieldrin	ND		ug/kg	0.965	--	A
4,4'-DDE	ND		ug/kg	1.54	--	A
4,4'-DDD	ND		ug/kg	1.54	--	A
4,4'-DDT	ND		ug/kg	2.90	--	A
Endosulfan I	ND		ug/kg	1.54	--	A
Endosulfan II	ND		ug/kg	1.54	--	A
Endosulfan sulfate	ND		ug/kg	0.644	--	A
Methoxychlor	ND		ug/kg	2.90	--	A
Chlordane	ND		ug/kg	12.9	--	A
Hexachlorobenzene	ND		ug/kg	1.54	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	42		30-150	A
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	49		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 02 Batch: WG1484134-2 WG1484134-3									
MCPP	77		74		40-140	4		30	A
MCPA	64		61		40-140	5		30	A
Dalapon	67		56		40-140	18		30	A
Dicamba	71		64		40-140	10		30	A
Dichloroprop	76		73		40-140	4		30	A
2,4-D	72		72		40-140	0		30	A
2,4-DB	61		63		40-140	3		30	A
2,4,5-T	67		63		40-140	6		30	A
2,4,5-TP (Silvex)	68		64		40-140	6		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	68		63		30-150	A
DCAA	72		65		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 02 Batch: WG1485944-2 WG1485944-3									
Delta-BHC	83		87		40-140	5		30	A
Lindane	83		88		40-140	6		30	A
Alpha-BHC	87		92		40-140	6		30	A
Beta-BHC	94		100		40-140	6		30	A
Heptachlor	76		79		40-140	4		30	A
Aldrin	77		80		40-140	4		30	A
Heptachlor epoxide	70		71		40-140	1		30	A
Endrin	74		76		40-140	3		30	A
Endrin ketone	72		77		40-140	7		30	A
Dieldrin	75		78		40-140	4		30	A
4,4'-DDE	70		72		40-140	3		30	A
4,4'-DDD	78		81		40-140	4		30	A
4,4'-DDT	70		74		40-140	6		30	A
Endosulfan I	73		76		40-140	4		30	A
Endosulfan II	81		87		40-140	7		30	A
Endosulfan sulfate	61		64		40-140	5		30	A
Methoxychlor	70		78		40-140	11		30	A
Hexachlorobenzene	72		76		40-140	5		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825

Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 02 Batch: WG1485944-2 WG1485944-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		76		30-150	A
Decachlorobiphenyl	51		53		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		75		30-150	B
Decachlorobiphenyl	52		55		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2117825

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/15/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 02 Batch: WG1484395-1										
Antimony, Total	ND		mg/kg	2.00	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Arsenic, Total	ND		mg/kg	0.400	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Barium, Total	ND		mg/kg	0.400	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Beryllium, Total	ND		mg/kg	0.200	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Cadmium, Total	ND		mg/kg	0.400	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Chromium, Total	ND		mg/kg	0.400	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Lead, Total	ND		mg/kg	2.00	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Nickel, Total	ND		mg/kg	1.00	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Selenium, Total	ND		mg/kg	2.00	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Silver, Total	ND		mg/kg	0.400	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Thallium, Total	ND		mg/kg	2.00	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Vanadium, Total	ND		mg/kg	0.400	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW
Zinc, Total	ND		mg/kg	2.00	--	1	04/09/21 22:17	04/12/21 11:55	97,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 02 Batch: WG1484397-1										
Mercury, Total	ND		mg/kg	0.083	--	1	04/09/21 22:53	04/10/21 13:17	97,7471B	NB

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825

Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1484395-2 WG1484395-3 SRM Lot Number: D109-540								
Antimony, Total	123		132		19-250	7		30
Arsenic, Total	91		103		70-130	12		30
Barium, Total	87		97		75-125	11		30
Beryllium, Total	90		99		75-125	10		30
Cadmium, Total	89		93		75-125	4		30
Chromium, Total	85		95		70-130	11		30
Lead, Total	91		98		72-128	7		30
Nickel, Total	88		95		70-130	8		30
Selenium, Total	93		104		68-132	11		30
Silver, Total	90		104		68-131	14		30
Thallium, Total	92		96		68-131	4		30
Vanadium, Total	82		91		59-141	10		30
Zinc, Total	89		96		70-130	8		30
MCP Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1484397-2 WG1484397-3 SRM Lot Number: D109-540								
Mercury, Total	78		87		60-140	11		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

SAMPLE RESULTS

Lab ID: L2117825-01
Client ID: GLC-WASHPS-40821-DC-VOC (1'-2')
Sample Location: SOMERVILLE, MA

Date Collected: 04/08/21 12:19
Date Received: 04/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.4		%	0.100	NA	1	-	04/09/21 07:33	121,2540G	RI

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2117825
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Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG1485243-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	04/12/21 15:15	04/12/21 16:32	125,7.3	NA
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG1485246-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	04/12/21 15:15	04/12/21 17:00	125,7.3	NA

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825

Report Date: 04/15/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1484806-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1484877-1								
Specific Conductance	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1485243-2								
Sulfide, Reactive	79		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1485246-2								
Cyanide, Reactive	118		-		30-125	-		40

Lab Duplicate Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1484806-2 QC Sample: L2117825-02 Client ID: GLC-WASHPS-40821-DC-COMP (0-2')						
pH (H)	8.3	7.9	SU	5		5
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1484877-2 QC Sample: L2117825-02 Client ID: GLC-WASHPS-40821-DC-COMP (0-2')						
Specific Conductance @ 25 C	69	82	umhos/cm	17		20
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1485243-3 QC Sample: L2117825-02 Client ID: GLC-WASHPS-40821-DC-COMP (0-2')						
Sulfide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1485246-3 QC Sample: L2117825-02 Client ID: GLC-WASHPS-40821-DC-COMP (0-2')						
Cyanide, Reactive	ND	ND	mg/kg	NC		40

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2117825
Report Date: 04/15/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2117825-01A	Vial MeOH preserved	A	NA		4.2	Y	Absent		MCP-8260HLW-10(14)
L2117825-01B	Vial water preserved	A	NA		4.2	Y	Absent	08-APR-21 22:33	MCP-8260HLW-10(14)
L2117825-01C	Vial water preserved	A	NA		4.2	Y	Absent	08-APR-21 22:33	MCP-8260HLW-10(14)
L2117825-01D	Plastic 2oz unpreserved for TS	A	NA		4.2	Y	Absent		TS(7)
L2117825-02A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2117825-02B	Glass 250ml/8oz unpreserved	A	NA		4.2	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),REACTCN(14),TPH-DRO-D(14),COND-9050(28)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2117825
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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2117825
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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

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Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/15/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2117825
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/15/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

stborough, MA Mansfield, MA
L: 508-898-9220 TEL: 508-822-9300
X: 508-898-9193 FAX: 508-822-3288

Date Rec'd in Lab: 4/8/21

ALPHA Job #: L2117815

Client Information

ent:
C Environmental Corp
dress: 2 Liberty Square
ston, MA 02109
one: 617-476-1303
X:
ail: RNiles@trccompanies.com

These samples have been Previously analyzed by Alpha

Project Information

Project Name: MBTA GLX Disposal Sampling
Project Location: Somerville, MA
Project #: 310142.0032.0000 Phase 3 Task4
Project Manager: Ryan Niles
ALPHA Quote #: 7623R1

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information – Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 164533

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1; <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

her Project Specific Requirements/Comments/Detection Limits:

CP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
d'l emails: KMorin@trccompanies.com, lvolk@"".com, lnakolan@"".com,
yres@"".com
n TCLP for any analyte that fails the 20x Rule
n VOCs for Low Level first.

ANALYSIS

PHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides	TOTAL # BOTTLES
	~~GLC-WASHPS-40821-DC-Comp~~	~~4/8/21~~	~~1219~~	~~Soil~~	~~JF~~	~~☒~~	~~☒~~	~~☐~~	~~☐~~	~~☐~~	~~☐~~	~~☐~~	~~☐~~	~~☐~~	~~☐~~	~~☐~~	~~JF~~
	~~GLC-WASHPS-40821-DC-VOC(1:2)~~	~~4/8/21~~	~~1219~~	~~Soil~~	~~JF~~	~~☐~~	~~☐~~	~~☒~~	~~☒~~	~~☒~~	~~☒~~	~~☒~~	~~☒~~	~~☒~~	~~☒~~	~~☒~~	~~JF~~
17825-01	GLC-WASHPS-40821-DC-VOC(1:2)	4/8/21	1219	Soil	JF	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-02	GLC-WASHPS-40821-DC-Comp	4/8/21	1219	Soil	JF	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

Container Type	V	V	A	A	A	A	A	A	A	A	A	A
Preservative	F	G	A	A	A	A	A	A	A	A	A	A

ASE ANSWER QUESTIONS ABOVE!

YOUR PROJECT
A MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Corey Buckley AAL	4/8/21 1500	AAL	4/8/21 1500
	4/8 1745	Helen W COU	4/8/21 1745

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2117825
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4
Lab Sample ID	: WG1485963-5	**Lab File ID**	: V26210413N03
Instrument ID	: VOA126		
Matrix	: SOIL	**Analysis Date**	: 04/13/21 20:30

Client Sample No.	Lab Sample ID	Analysis Date
WG1485963-3LCS	WG1485963-3	04/13/21 19:13
WG1485963-4LCSD	WG1485963-4	04/13/21 19:52
GLC-WASHPS-40821-DC-VOC (1'-2')	L2117825-01	04/14/21 00:25

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2117825
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4
Lab Sample ID	: WG1485963-10	**Lab File ID**	: V26210414A03
Instrument ID	: VOA126		
Matrix	: SOIL	**Analysis Date**	: 04/14/21 11:47

Client Sample No.	Lab Sample ID	Analysis Date
WG1485963-8LCS	WG1485963-8	04/14/21 10:29
WG1485963-9LCSD	WG1485963-9	04/14/21 11:08
GLC-WASHPS-40821-DC-VOC (1'-2')	L2117825-01R	04/14/21 12:26

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2117825		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4		
Instrument ID	: VOA126	**Calibration Date**	: 04/13/21 19:13		
Lab File ID	: V26210413N01	**Init. Calib. Date(s)**	: 03/26/21	03/26/21	
Sample No	: WG1485963-2	**Init. Calib. Times**	: 18:02	23:20	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	72	0
Dichlorodifluoromethane	0.227	0.116	-	48.9*	20	44	0
Chloromethane	40	48.889	-	-22.2*	20	105	0
Vinyl chloride	0.229	0.228	-	0.4	20	84	0
Bromomethane	40	57.07	-	-42.7*	20	108	0
Chloroethane	0.138	0.142	-	-2.9	20	87	0
Trichlorofluoromethane	0.32	0.295	-	7.8	20	79	0
Ethyl ether	0.106	0.108	-	-1.9	20	82	-.01
1,1-Dichloroethene	0.18	0.173	-	3.9	20	83	0
Carbon disulfide	0.575	0.556	-	3.3	20	82	0
Freon-113	0.184	0.184	-	0	20	86	0
Acrolein	0.025	0.024*	-	4	20	79	0
Methylene chloride	0.215	0.204	-	5.1	20	82	0
Acetone	40	44.996	-	-12.5	20	86	-.01
trans-1,2-Dichloroethene	0.206	0.195	-	5.3	20	80	0
Methyl acetate	0.121	0.142	-	-17.4	20	99	-.01
Methyl tert-butyl ether	0.55	0.566	-	-2.9	20	82	-.01
tert-Butyl alcohol	0.023	0.016*	-	30.4*	20	58	-.01
Diisopropyl ether	0.666	0.866	-	-30*	20	105	0
1,1-Dichloroethane	0.368	0.423	-	-14.9	20	95	-.01
Halothane	0.156	0.148	-	5.1	20	79	-.01
Acrylonitrile	0.066	0.079	-	-19.7	20	97	-.01
Ethyl tert-butyl ether	0.64	0.768	-	-20	20	96	-.01
Vinyl acetate	0.321	0.414	-	-29*	20	105	0
cis-1,2-Dichloroethene	0.231	0.224	-	3	20	81	0
2,2-Dichloropropane	0.29	0.301	-	-3.8	20	85	-.01
Bromochloromethane	0.104	0.099	-	4.8	20	76	0
Cyclohexane	0.362	0.423	-	-16.9	20	99	0
Chloroform	0.372	0.386	-	-3.8	20	85	-.01
Ethyl acetate	0.168	0.2	-	-19	20	98	-.01
Carbon tetrachloride	0.298	0.25	-	16.1	20	69	-.01
Tetrahydrofuran	40	46.817	-	-17	20	101	0
Dibromofluoromethane	0.25	0.245	-	2	20	70	0
1,1,1-Trichloroethane	0.326	0.32	-	1.8	20	81	-.01
2-Butanone	0.077	0.095*	-	-23.4*	20	101	0
1,1-Dichloropropene	0.282	0.287	-	-1.8	20	86	0
Benzene	0.818	0.819	-	-0.1	20	83	0
tert-Amyl methyl ether	0.548	0.581	-	-6	20	85	0
1,2-Dichloroethane-d4	0.265	0.284	-	-7.2	20	78	0
1,2-Dichloroethane	0.292	0.324	-	-11	20	90	-.01
Methyl cyclohexane	0.342	0.349	-	-2	20	86	0
Trichloroethene	0.221	0.219	-	0.9	20	83	-.01
Dibromomethane	0.123	0.126	-	-2.4	20	82	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2117825	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032 PH3 TK4	
Instrument ID	: VOA126		**Calibration Date**	: 04/13/21 19:13	
Lab File ID	: V26210413N01		**Init. Calib. Date(s)**	: 03/26/21	03/26/21
Sample No	: WG1485963-2		**Init. Calib. Times**	: 18:02	23:20
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.217	0.238	-	-9.7	20	89	0
2-Chloroethyl vinyl ether	0.122	0.117	-	4.1	20	76	0
Bromodichloromethane	0.28	0.274	-	2.1	20	77	-.01
1,4-Dioxane	0.00194	0.0019*	-	2.1	20	72	0
cis-1,3-Dichloropropene	0.328	0.335	-	-2.1	20	80	0
Chlorobenzene-d5	1	1	-	0	20	72	0
Toluene-d8	1.262	1.271	-	-0.7	20	73	-.01
Toluene	0.696	0.683	-	1.9	20	80	0
4-Methyl-2-pentanone	0.096	0.104	-	-8.3	20	87	0
Tetrachloroethene	0.311	0.268	-	13.8	20	74	0
trans-1,3-Dichloropropene	0.369	0.389	-	-5.4	20	81	0
Ethyl methacrylate	0.337	0.326	-	3.3	20	75	-.01
1,1,2-Trichloroethane	0.188	0.19	-	-1.1	20	81	-.01
Chlorodibromomethane	0.249	0.223	-	10.4	20	67	-.01
1,3-Dichloropropane	0.383	0.393	-	-2.6	20	82	-.01
1,2-Dibromoethane	0.224	0.213	-	4.9	20	75	0
2-Hexanone	0.177	0.201	-	-13.6	20	93	-.01
Chlorobenzene	0.794	0.759	-	4.4	20	78	0
Ethylbenzene	1.305	1.339	-	-2.6	20	90	-.01
1,1,1,2-Tetrachloroethane	0.269	0.246	-	8.6	20	75	0
p/m Xylene	0.52	0.518	-	0.4	20	82	0
o Xylene	0.5	0.496	-	0.8	20	79	-.01
Styrene	0.842	0.864	-	-2.6	20	80	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	71	0
Bromoform	40	32.446	-	18.9	20	62	0
Isopropylbenzene	2.502	2.503	-	-0	20	79	-.01
4-Bromofluorobenzene	0.903	0.946	-	-4.8	20	74	-.01
Bromobenzene	0.626	0.577	-	7.8	20	73	-.01
n-Propylbenzene	2.939	3.138	-	-6.8	20	84	0
1,4-Dichlorobutane	0.805	0.932	-	-15.8	20	90	0
1,1,2,2-Tetrachloroethane	0.532	0.519	-	2.4	20	75	0
4-Ethyltoluene	2.422	2.5	-	-3.2	20	82	0
2-Chlorotoluene	1.983	2.091	-	-5.4	20	84	0
1,3,5-Trimethylbenzene	2.123	2.188	-	-3.1	20	82	-.01
1,2,3-Trichloropropane	0.4	0.404	-	-1	20	79	0
trans-1,4-Dichloro-2-buten	0.18	0.205	-	-13.9	20	88	0
4-Chlorotoluene	1.832	1.958	-	-6.9	20	85	0
tert-Butylbenzene	1.843	1.845	-	-0.1	20	80	0
1,2,4-Trimethylbenzene	2.106	2.189	-	-3.9	20	83	0
sec-Butylbenzene	2.743	2.541	-	7.4	20	73	0
p-Isopropyltoluene	2.37	2.373	-	-0.1	20	79	0
1,3-Dichlorobenzene	1.234	1.2	-	2.8	20	77	0
1,4-Dichlorobenzene	1.231	1.199	-	2.6	20	78	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2117825	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032 PH3 TK4	
Instrument ID	: VOA126		**Calibration Date**	: 04/13/21 19:13	
Lab File ID	: V26210413N01		**Init. Calib. Date(s)**	: 03/26/21	03/26/21
Sample No	: WG1485963-2		**Init. Calib. Times**	: 18:02	23:20
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.431	1.475	-	-3.1	20	82	0
n-Butylbenzene	2.591	2.835	-	-9.4	20	88	0
1,2-Dichlorobenzene	1.153	1.096	-	4.9	20	75	0
1,2,4,5-Tetramethylbenzene	2.137	2.235	-	-4.6	20	80	0
1,2-Dibromo-3-chloropropan	0.088	0.069	-	21.6*	20	60	0
1,3,5-Trichlorobenzene	0.837	0.829	-	1	20	78	0
Hexachlorobutadiene	0.433	0.371	-	14.3	20	68	.02
1,2,4-Trichlorobenzene	0.779	0.734	-	5.8	20	74	.01
Naphthalene	1.706	1.586	-	7	20	69	.01
1,2,3-Trichlorobenzene	0.71	0.644	-	9.3	20	70	.02

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2117825		
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4		
Instrument ID	: VOA126	**Calibration Date**	: 04/14/21 10:29		
Lab File ID	: V26210414A01	**Init. Calib. Date(s)**	: 03/26/21	03/26/21	
Sample No	: WG1485963-7	**Init. Calib. Times**	: 18:02	23:20	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	66	0
Dichlorodifluoromethane	0.227	0.122	-	46.3*	20	42	0
Chlorodifluoromethane	0.238	0.313	-	-31.5*	20	95	0
Chloromethane	40	49.535	-	-23.8*	20	97	0
Vinyl chloride	0.229	0.236	-	-3.1	20	79	0
Bromomethane	40	54.585	-	-36.5*	20	94	0
Chloroethane	0.138	0.145	-	-5.1	20	81	0
Trichlorofluoromethane	0.32	0.302	-	5.6	20	74	0
Ethyl ether	0.106	0.106	-	0	20	74	-.01
1,1-Dichloroethene	0.18	0.173	-	3.9	20	76	-.01
Carbon disulfide	0.575	0.559	-	2.8	20	75	0
Freon-113	0.184	0.189	-	-2.7	20	81	0
Iodomethane	0.196	0.194	-	1	20	67	-.01
Acrolein	0.025	0.024*	-	4	20	73	0
Allyl chloride	0.108	0.112	-	-3.7	20	70	-.01
Methylene chloride	0.215	0.204	-	5.1	20	75	0
Acetone	40	47.458	-	-18.6	20	82	-.02
trans-1,2-Dichloroethene	0.206	0.196	-	4.9	20	73	0
Methyl acetate	0.121	0.147	-	-21.5*	20	93	-.01
Hexane	0.339	0.408	-	-20.4*	20	89	0
Methyl tert-butyl ether	0.55	0.558	-	-1.5	20	74	-.01
tert-Butyl alcohol	0.023	0.017*	-	26.1*	20	56	-.01
Diisopropyl ether	0.666	0.894	-	-34.2*	20	99	-.01
1,1-Dichloroethane	0.368	0.432	-	-17.4	20	88	0
Halothane	0.156	0.149	-	4.5	20	72	0
Acrylonitrile	0.066	0.081	-	-22.7*	20	92	0
Ethyl tert-butyl ether	0.64	0.772	-	-20.6*	20	88	-.01
Vinyl acetate	0.321	0.416	-	-29.6*	20	96	0
cis-1,2-Dichloroethene	0.231	0.225	-	2.6	20	74	0
2,2-Dichloropropane	0.29	0.299	-	-3.1	20	77	0
Bromochloromethane	0.104	0.097	-	6.7	20	69	0
Cyclohexane	0.362	0.449	-	-24*	20	96	0
Chloroform	0.372	0.391	-	-5.1	20	78	0
Ethyl acetate	0.168	0.205	-	-22*	20	92	0
Carbon tetrachloride	0.298	0.255	-	14.4	20	64	-.01
Tetrahydrofuran	40	47.217	-	-18	20	92	0
Dibromofluoromethane	0.25	0.247	-	1.2	20	64	0
1,1,1-Trichloroethane	0.326	0.325	-	0.3	20	75	0
2-Butanone	0.077	0.096*	-	-24.7*	20	93	0
1,1-Dichloropropene	0.282	0.297	-	-5.3	20	81	0
Heptane	0.204	0.22	-	-7.8	20	77	0
Benzene	0.818	0.828	-	-1.2	20	77	0
tert-Amyl methyl ether	0.548	0.584	-	-6.6	20	78	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2117825	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032 PH3 TK4	
Instrument ID	: VOA126		**Calibration Date**	: 04/14/21 10:29	
Lab File ID	: V26210414A01		**Init. Calib. Date(s)**	: 03/26/21	03/26/21
Sample No	: WG1485963-7		**Init. Calib. Times**	: 18:02	23:20
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloroethane-d4	0.265	0.295	-	-11.3	20	74	0
1,2-Dichloroethane	0.292	0.33	-	-13	20	83	0
Methyl cyclohexane	0.342	0.371	-	-8.5	20	83	-.01
Trichloroethene	0.221	0.22	-	0.5	20	76	0
Dibromomethane	0.123	0.125	-	-1.6	20	74	0
1,2-Dichloropropane	0.217	0.243	-	-12	20	83	0
2-Chloroethyl vinyl ether	0.122	0.121	-	0.8	20	72	0
Bromodichloromethane	0.28	0.278	-	0.7	20	71	0
Methyl methacrylate	0.123	0.128	-	-4.1	20	69	-.01
1,4-Dioxane	0.00194	0.00212*	-	-9.3	20	73	0
cis-1,3-Dichloropropene	0.328	0.34	-	-3.7	20	74	0
Chlorobenzene-d5	1	1	-	0	20	67	0
Octane	0.283	0.284	-	-0.4	20	72	0
Toluene-d8	1.262	1.274	-	-1	20	67	-.01
Toluene	0.696	0.681	-	2.2	20	74	0
4-Methyl-2-pentanone	0.096	0.103	-	-7.3	20	80	-.01
Tetrachloroethene	0.311	0.272	-	12.5	20	69	0
2-Nitropropane	0.046	0.026	-	43.5*	20	41	0
trans-1,3-Dichloropropene	0.369	0.392	-	-6.2	20	76	0
Methyl isothiocyanate	0.14	0.129	-	7.9	20	61	0
Ethyl methacrylate	0.337	0.328	-	2.7	20	70	0
1,1,2-Trichloroethane	0.188	0.189	-	-0.5	20	74	-.01
Chlorodibromomethane	0.249	0.225	-	9.6	20	63	-.01
1,3-Dichloropropane	0.383	0.393	-	-2.6	20	76	0
1,2-Dibromoethane	0.224	0.212	-	5.4	20	69	0
n-Butyl Acetate	0.405	0.494	-	-22*	20	79	0
2-Hexanone	0.177	0.208	-	-17.5	20	90	0
Nonane	0.522	0.619	-	-18.6	20	84	0
Chlorobenzene	0.794	0.748	-	5.8	20	71	0
Ethylbenzene	1.305	1.343	-	-2.9	20	84	-.01
1,1,1,2-Tetrachloroethane	0.269	0.24	-	10.8	20	68	0
p/m Xylene	0.52	0.516	-	0.8	20	75	0
o Xylene	0.5	0.491	-	1.8	20	73	0
Styrene	0.842	0.861	-	-2.3	20	73	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	67	0
Bromoform	40	32.374	-	19.1	20	59	0
Isopropylbenzene	2.502	2.474	-	1.1	20	74	0
4-Bromofluorobenzene	0.903	0.947	-	-4.9	20	70	-.01
Bromobenzene	0.626	0.553	-	11.7	20	66	0
Decane	1.152	1.411	-	-22.5*	20	85	0
n-Propylbenzene	2.939	3.127	-	-6.4	20	80	0
1,4-Dichlorobutane	0.805	0.942	-	-17	20	87	0
1,1,2,2-Tetrachloroethane	0.532	0.513	-	3.6	20	71	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2117825	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032 PH3 TK4	
Instrument ID	: VOA126		**Calibration Date**	: 04/14/21 10:29	
Lab File ID	: V26210414A01		**Init. Calib. Date(s)**	: 03/26/21	03/26/21
Sample No	: WG1485963-7		**Init. Calib. Times**	: 18:02	23:20
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
4-Ethyltoluene	2.422	2.465	-	-1.8	20	77	0
2-Chlorotoluene	1.983	2.059	-	-3.8	20	79	0
1,3,5-Trimethylbenzene	2.123	2.158	-	-1.6	20	77	0
1,2,3-Trichloropropane	0.4	0.405	-	-1.3	20	75	0
trans-1,4-Dichloro-2-buten	0.18	0.206	-	-14.4	20	84	0
4-Chlorotoluene	1.832	1.914	-	-4.5	20	79	0
tert-Butylbenzene	1.843	1.8	-	2.3	20	74	0
1,2,4-Trimethylbenzene	2.106	2.139	-	-1.6	20	77	0
Limonene	0.751	0.857	-	-14.1	20	79	0
sec-Butylbenzene	2.743	2.527	-	7.9	20	69	0
p-Isopropyltoluene	2.37	2.372	-	-0.1	20	75	0
1,3-Dichlorobenzene	1.234	1.163	-	5.8	20	71	0
1,4-Dichlorobenzene	1.231	1.166	-	5.3	20	72	0
trans-Decahydronaphthalene	0.665	0.623	-	6.3	20	66	0
Undecane	1.095	1.54	-	-40.6*	20	95	0
p-Diethylbenzene	1.431	1.473	-	-2.9	20	78	0
n-Butylbenzene	2.591	2.928	-	-13	20	86	0
Hexachloroethane	0.389	0.323	-	17	20	54	0
1,2-Dichlorobenzene	1.153	1.067	-	7.5	20	69	0
cis-Decahydronaphthalene	0.523	0.487	-	6.9	20	66	0
1,2,4,5-Tetramethylbenzene	2.137	2.223	-	-4	20	76	0
1,2-Dibromo-3-chloropropan	0.088	0.071	-	19.3	20	58	0
1,3,5-Trichlorobenzene	0.837	0.821	-	1.9	20	74	0
Nitrobenzene	40	34.873	-	12.8	20	52	.01
Hexachlorobutadiene	0.433	0.365	-	15.7	20	64	.02
1,2,4-Trichlorobenzene	0.779	0.722	-	7.3	20	69	.01
Naphthalene	1.706	1.577	-	7.6	20	66	.01
1,2,3-Trichlorobenzene	0.71	0.626	-	11.8	20	64	.02

*** Value outside of QC limits.**

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2117825
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4
Instrument ID	: PEST11	**Analysis Date**	: 04/14/21 09:37
PEM Standard	: R1421821-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	1065242.93891	800816.36319
Endrin	160055689.9392	222183990.7328
4,4'-DDD	1152200.33034	1222925.3664
4,4'-DDT	275329119.6384	404089368.46068
Endrin Aldehyde	462041.152	380987.93909
Endrin Ketone	1192413.0934	948590.61615

Parameter	%Breakdown 1	%Breakdown 2
Endrin	1.02	0.595
DDT	0.799	0.498

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2117825
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4
Instrument ID	: PEST15	**Analysis Date**	: 04/15/21 06:35
PEM Standard	: R1422252-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	1344215.4793	634699.1623
Endrin	528771377.75	362545586.2861
4,4'-DDD	2798134.9472	3689264.1576
4,4'-DDT	905014272.98021	593478138.65461
Endrin Aldehyde	0	539858.0562
Endrin Ketone	1244286.1971	996499.1172

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.235	0.422
DDT	0.456	0.723

ANALYTICAL REPORT

Lab Number:	L2120940
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0032 PH3 TK4
Report Date:	04/27/21

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
~~L2120940-01~~	~~GLC-WASHPS-041221-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~04/23/21 11:00~~	~~04/23/21~~
L2120940-02	GLC-WASHPS-041221-DC-VOC-6	SOIL	SOMERVILLE, MA	04/23/21 11:00	04/23/21
~~L2120940-03~~	~~GLC-OSCDRILLSPOILS-210329-DC-COMP~~	~~SOIL~~	~~SOMERVILLE, MA~~	~~04/23/21 11:30~~	~~04/23/21~~
L2120940-04	GLC-OSCDRILLSPOILS-210329-DC-VOC-8	SOIL	SOMERVILLE, MA	04/23/21 11:30	04/23/21

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2120940
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/27/21

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2120940
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/27/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2120940
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/27/21

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

L2120940-02 and -04: Initial calibration utilized a quadratic fit for: bromomethane

In reference to question H:

L2120940-02 and -04: Initial Calibration did not meet:

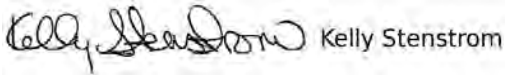
Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0028)

Average Response Factor: 1,4-dioxane

Verification: dichlorodifluoromethane (41%)

L2120940-02 and -04: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Kelly Stenstrom

Title: Technical Director/Representative Date: 04/27/21

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

SAMPLE RESULTS

Lab ID: L2120940-02
Client ID: GLC-WASHPS-041221-DC-VOC-6
Sample Location: SOMERVILLE, MA

Date Collected: 04/23/21 11:00
Date Received: 04/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 04/27/21 02:22
Analyst: NLK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.2	--	1
1,1-Dichloroethane	ND		ug/kg	0.83	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.83	--	1
1,2-Dichloropropane	ND		ug/kg	0.83	--	1
Dibromochloromethane	ND		ug/kg	0.83	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.83	--	1
Tetrachloroethene	1.0		ug/kg	0.42	--	1
Chlorobenzene	ND		ug/kg	0.42	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.83	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.42	--	1
Bromodichloromethane	ND		ug/kg	0.42	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.83	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.42	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.42	--	1
1,1-Dichloropropene	ND		ug/kg	0.42	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Benzene	ND		ug/kg	0.42	--	1
Toluene	ND		ug/kg	0.83	--	1
Ethylbenzene	ND		ug/kg	0.83	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	0.83	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.83	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

SAMPLE RESULTS

Lab ID: L2120940-02 Date Collected: 04/23/21 11:00

Client ID: GLC-WASHPS-041221-DC-VOC-6 Date Received: 04/23/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.42	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	--	1
Methyl tert butyl ether	ND		ug/kg	1.7	--	1
p/m-Xylene	ND		ug/kg	1.7	--	1
o-Xylene	ND		ug/kg	0.83	--	1
Xylenes, Total	ND		ug/kg	0.83	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.83	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.83	--	1
Dibromomethane	ND		ug/kg	1.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	--	1
Styrene	ND		ug/kg	0.83	--	1
Dichlorodifluoromethane	ND		ug/kg	8.3	--	1
Acetone	36		ug/kg	21	--	1
Carbon disulfide	ND		ug/kg	8.3	--	1
Methyl ethyl ketone	ND		ug/kg	8.3	--	1
Methyl isobutyl ketone	ND		ug/kg	8.3	--	1
2-Hexanone	ND		ug/kg	8.3	--	1
Bromochloromethane	ND		ug/kg	1.7	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.7	--	1
1,2-Dibromoethane	ND		ug/kg	0.83	--	1
1,3-Dichloropropane	ND		ug/kg	1.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Bromobenzene	ND		ug/kg	1.7	--	1
n-Butylbenzene	ND		ug/kg	0.83	--	1
sec-Butylbenzene	ND		ug/kg	0.83	--	1
tert-Butylbenzene	ND		ug/kg	1.7	--	1
o-Chlorotoluene	ND		ug/kg	1.7	--	1
p-Chlorotoluene	ND		ug/kg	1.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.83	--	1
p-Isopropyltoluene	ND		ug/kg	0.83	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.83	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

SAMPLE RESULTS

Lab ID: L2120940-02 Date Collected: 04/23/21 11:00

Client ID: GLC-WASHPS-041221-DC-VOC-6 Date Received: 04/23/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	--	1
Diethyl ether	ND		ug/kg	1.7	--	1
Diisopropyl Ether	ND		ug/kg	1.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.7	--	1
1,4-Dioxane	ND		ug/kg	66	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	108		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

SAMPLE RESULTS

Lab ID: L2120940-04
Client ID: GLC-OSCDRILLSPOILS-210329-DC-VOC-8
Sample Location: SOMERVILLE, MA

Date Collected: 04/23/21 11:30
Date Received: 04/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 04/27/21 02:49
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.76	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.76	--	1
1,2-Dichloropropane	ND		ug/kg	0.76	--	1
Dibromochloromethane	ND		ug/kg	0.76	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	--	1
Tetrachloroethene	0.56		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.76	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	ND		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.76	--	1
Ethylbenzene	ND		ug/kg	0.76	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.76	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.76	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

SAMPLE RESULTS

Lab ID: L2120940-04 Date Collected: 04/23/21 11:30

Client ID: GLC-OSCDRILLSPOILS-210329-DC-VOC-8 Date Received: 04/23/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.76	--	1
Xylenes, Total	ND		ug/kg	0.76	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.76	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.76	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.76	--	1
Dichlorodifluoromethane	ND		ug/kg	7.6	--	1
Acetone	20		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.6	--	1
Methyl ethyl ketone	ND		ug/kg	7.6	--	1
Methyl isobutyl ketone	ND		ug/kg	7.6	--	1
2-Hexanone	ND		ug/kg	7.6	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.76	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.76	--	1
sec-Butylbenzene	ND		ug/kg	0.76	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.76	--	1
p-Isopropyltoluene	ND		ug/kg	0.76	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.76	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

SAMPLE RESULTS

Lab ID: L2120940-04 Date Collected: 04/23/21 11:30

Client ID: GLC-OSCDRILLSPOILS-210329-DC-VOC-8 Date Received: 04/23/21

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	61	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	107		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/26/21 17:45
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04 Batch: WG1491178-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/26/21 17:45
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04 Batch: WG1491178-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2120940
Report Date: 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/26/21 17:45
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04 Batch: WG1491178-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 02,04		Batch: WG1491178-3 WG1491178-4					
Methylene chloride	93		81		70-130	14		20
1,1-Dichloroethane	108		110		70-130	2		20
Chloroform	101		100		70-130	1		20
Carbon tetrachloride	94		96		70-130	2		20
1,2-Dichloropropane	111		111		70-130	0		20
Dibromochloromethane	103		105		70-130	2		20
1,1,2-Trichloroethane	108		105		70-130	3		20
Tetrachloroethene	96		96		70-130	0		20
Chlorobenzene	100		100		70-130	0		20
Trichlorofluoromethane	98		99		70-130	1		20
1,2-Dichloroethane	101		102		70-130	1		20
1,1,1-Trichloroethane	98		99		70-130	1		20
Bromodichloromethane	102		103		70-130	1		20
trans-1,3-Dichloropropene	106		106		70-130	0		20
cis-1,3-Dichloropropene	106		107		70-130	1		20
1,1-Dichloropropene	105		106		70-130	1		20
Bromoform	84		88		70-130	5		20
1,1,2,2-Tetrachloroethane	111		112		70-130	1		20
Benzene	106		107		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	101		101		70-130	0		20
Chloromethane	120		120		70-130	0		20
Bromomethane	121		121		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 02,04		Batch: WG1491178-3 WG1491178-4					
Vinyl chloride	102		104		70-130	2		20
Chloroethane	93		95		70-130	2		20
1,1-Dichloroethene	89		89		70-130	0		20
trans-1,2-Dichloroethene	99		100		70-130	1		20
Trichloroethene	101		101		70-130	0		20
1,2-Dichlorobenzene	99		99		70-130	0		20
1,3-Dichlorobenzene	98		99		70-130	1		20
1,4-Dichlorobenzene	98		98		70-130	0		20
Methyl tert butyl ether	98		98		70-130	0		20
p/m-Xylene	102		101		70-130	1		20
o-Xylene	103		104		70-130	1		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	101		100		70-130	1		20
1,2,3-Trichloropropane	108		110		70-130	2		20
Styrene	104		104		70-130	0		20
Dichlorodifluoromethane	90		92		70-130	2		20
Acetone	120		110		70-130	9		20
Carbon disulfide	89		91		70-130	2		20
Methyl ethyl ketone	113		110		70-130	3		20
Methyl isobutyl ketone	110		108		70-130	2		20
2-Hexanone	110		108		70-130	2		20
Bromochloromethane	97		95		70-130	2		20
Tetrahydrofuran	115		117		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,04 Batch: WG1491178-3 WG1491178-4								
2,2-Dichloropropane	98		97		70-130	1		20
1,2-Dibromoethane	101		100		70-130	1		20
1,3-Dichloropropane	108		108		70-130	0		20
1,1,1,2-Tetrachloroethane	100		100		70-130	0		20
Bromobenzene	93		95		70-130	2		20
n-Butylbenzene	110		110		70-130	0		20
sec-Butylbenzene	103		106		70-130	3		20
tert-Butylbenzene	100		101		70-130	1		20
o-Chlorotoluene	103		104		70-130	1		20
p-Chlorotoluene	103		104		70-130	1		20
1,2-Dibromo-3-chloropropane	99		97		70-130	2		20
Hexachlorobutadiene	89		90		70-130	1		20
Isopropylbenzene	100		102		70-130	2		20
p-Isopropyltoluene	101		102		70-130	1		20
Naphthalene	99		99		70-130	0		20
n-Propylbenzene	105		107		70-130	2		20
1,2,3-Trichlorobenzene	97		98		70-130	1		20
1,2,4-Trichlorobenzene	96		96		70-130	0		20
1,3,5-Trimethylbenzene	101		103		70-130	2		20
1,2,4-Trimethylbenzene	102		103		70-130	1		20
Diethyl ether	88		91		70-130	3		20
Diisopropyl Ether	122		124		70-130	2		20
Ethyl-Tert-Butyl-Ether	107		108		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 02,04		Batch: WG1491178-3 WG1491178-4					
Tertiary-Amyl Methyl Ether	99		100		70-130	1		20
1,4-Dioxane	95		92		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		101		70-130
Toluene-d8	104		103		70-130
4-Bromofluorobenzene	101		100		70-130
Dibromofluoromethane	98		97		70-130

SEMIVOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2120940
Report Date: 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 04/26/21 21:33
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 04/26/21 03:54

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG1490560-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	140	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	140	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2120940
Report Date: 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 04/26/21 21:33
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 04/26/21 03:54

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG1490560-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2120940
Report Date: 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 04/26/21 21:33
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 04/26/21 03:54

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG1490560-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		30-130
Phenol-d6	71		30-130
Nitrobenzene-d5	77		30-130
2-Fluorobiphenyl	77		30-130
2,4,6-Tribromophenol	64		30-130
4-Terphenyl-d14	78		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG1490560-2 WG1490560-3								
Acenaphthene	75		69		40-140	8		30
1,2,4-Trichlorobenzene	68		64		40-140	6		30
Hexachlorobenzene	65		62		40-140	5		30
Bis(2-chloroethyl)ether	74		69		40-140	7		30
2-Chloronaphthalene	75		69		40-140	8		30
1,2-Dichlorobenzene	66		60		40-140	10		30
1,3-Dichlorobenzene	64		59		40-140	8		30
1,4-Dichlorobenzene	66		60		40-140	10		30
3,3'-Dichlorobenzidine	63		51		40-140	21		30
2,4-Dinitrotoluene	74		70		40-140	6		30
2,6-Dinitrotoluene	77		75		40-140	3		30
Azobenzene	97		90		40-140	7		30
Fluoranthene	78		74		40-140	5		30
4-Bromophenyl phenyl ether	70		65		40-140	7		30
Bis(2-chloroisopropyl)ether	106		98		40-140	8		30
Bis(2-chloroethoxy)methane	75		70		40-140	7		30
Hexachlorobutadiene	72		63		40-140	13		30
Hexachloroethane	69		64		40-140	8		30
Isophorone	74		71		40-140	4		30
Naphthalene	73		68		40-140	7		30
Nitrobenzene	80		73		40-140	9		30
Bis(2-ethylhexyl)phthalate	92		86		40-140	7		30
Butyl benzyl phthalate	88		83		40-140	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG1490560-2 WG1490560-3								
Di-n-butylphthalate	86		84		40-140	2		30
Di-n-octylphthalate	90		84		40-140	7		30
Diethyl phthalate	79		75		40-140	5		30
Dimethyl phthalate	80		76		40-140	5		30
Benzo(a)anthracene	77		72		40-140	7		30
Benzo(a)pyrene	75		70		40-140	7		30
Benzo(b)fluoranthene	70		73		40-140	4		30
Benzo(k)fluoranthene	79		66		40-140	18		30
Chrysene	76		71		40-140	7		30
Acenaphthylene	75		70		40-140	7		30
Anthracene	77		74		40-140	4		30
Benzo(ghi)perylene	75		70		40-140	7		30
Fluorene	77		71		40-140	8		30
Phenanthrene	75		71		40-140	5		30
Dibenzo(a,h)anthracene	78		74		40-140	5		30
Indeno(1,2,3-cd)pyrene	83		76		40-140	9		30
Pyrene	78		74		40-140	5		30
Aniline	58		50		40-140	15		30
4-Chloroaniline	70		58		40-140	19		30
Dibenzofuran	75		69		40-140	8		30
2-Methylnaphthalene	77		71		40-140	8		30
Acetophenone	72		68		40-140	6		30
2,4,6-Trichlorophenol	78		72		30-130	8		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940

Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG1490560-2 WG1490560-3								
2-Chlorophenol	71		67		30-130	6		30
2,4-Dichlorophenol	78		73		30-130	7		30
2,4-Dimethylphenol	84		80		30-130	5		30
2-Nitrophenol	73		69		30-130	6		30
4-Nitrophenol	90		85		30-130	6		30
2,4-Dinitrophenol	58		74		30-130	24		30
Pentachlorophenol	76		70		30-130	8		30
Phenol	77		73		30-130	5		30
2-Methylphenol	77		72		30-130	7		30
3-Methylphenol/4-Methylphenol	83		78		30-130	6		30
2,4,5-Trichlorophenol	81		74		30-130	9		30
Pyridine	48		40		30-130	18		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	73		64		30-130
Phenol-d6	72		65		30-130
Nitrobenzene-d5	79		71		30-130
2-Fluorobiphenyl	75		69		30-130
2,4,6-Tribromophenol	64		59		30-130
4-Terphenyl-d14	75		69		30-130

PETROLEUM HYDROCARBONS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 04/27/21 06:24
Analyst: JB

Extraction Method: EPA 3546
Extraction Date: 04/27/21 00:34

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01,03 Batch: WG1491018-1					
TPH (C10-C36)	ND		ug/kg	32400	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	59		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940

Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01,03 Batch: WG1491018-2								
TPH (C10-C36)	73		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	67				40-140

PCBS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2120940
Report Date: 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 04/26/21 23:11
Analyst: JM

Extraction Method: EPA 3540C
Extraction Date: 04/25/21 22:53
Cleanup Method: EPA 3665A
Cleanup Date: 04/26/21
Cleanup Method: EPA 3660B
Cleanup Date: 04/26/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01,03 Batch: WG1490533-1						
Aroclor 1016	ND		ug/kg	31.8	--	A
Aroclor 1221	ND		ug/kg	31.8	--	A
Aroclor 1232	ND		ug/kg	31.8	--	A
Aroclor 1242	ND		ug/kg	31.8	--	A
Aroclor 1248	ND		ug/kg	31.8	--	A
Aroclor 1254	ND		ug/kg	31.8	--	A
Aroclor 1260	ND		ug/kg	31.8	--	A
Aroclor 1262	ND		ug/kg	31.8	--	A
Aroclor 1268	ND		ug/kg	31.8	--	A
PCBs, Total	ND		ug/kg	31.8	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	77		30-150	B
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	83		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01,03 Batch: WG1490533-2 WG1490533-3									
Aroclor 1016	67		67		40-140	0		30	A
Aroclor 1260	69		70		40-140	1		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		74		30-150	B
Decachlorobiphenyl	71		70		30-150	B
2,4,5,6-Tetrachloro-m-xylene	75		74		30-150	A
Decachlorobiphenyl	74		75		30-150	A

PESTICIDES

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2120940
Report Date: 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8151A
Analytical Date: 04/27/21 08:26
Analyst: JWL

Extraction Method: EPA 8151A
Extraction Date: 04/26/21 02:51

Methylation Date: 04/26/21 22:24

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Chlorinated Herbicides - Westborough Lab for sample(s): 01,03 Batch: WG1490556-1						
MCPP	ND		ug/kg	3300	--	A
MCPA	ND		ug/kg	3300	--	A
Dalapon	ND		ug/kg	33	--	A
Dicamba	ND		ug/kg	33	--	A
Dichloroprop	ND		ug/kg	33	--	A
2,4-D	ND		ug/kg	33	--	A
2,4-DB	ND		ug/kg	33	--	A
2,4,5-T	ND		ug/kg	33	--	A
2,4,5-TP (Silvex)	ND		ug/kg	33	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	81		30-150	A
DCAA	74		30-150	B

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4
Lab Number: L2120940
Report Date: 04/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8081B
Analytical Date: 04/27/21 10:11
Analyst: JWL

Extraction Method: EPA 3546
Extraction Date: 04/26/21 15:46
Cleanup Method: EPA 3620B
Cleanup Date: 04/27/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01,03 Batch: WG1490878-1						
Delta-BHC	ND		ug/kg	1.58	--	A
Lindane	ND		ug/kg	0.526	--	A
Alpha-BHC	ND		ug/kg	0.657	--	A
Beta-BHC	ND		ug/kg	1.58	--	A
Heptachlor	ND		ug/kg	0.788	--	A
Aldrin	ND		ug/kg	1.58	--	A
Heptachlor epoxide	ND		ug/kg	2.96	--	A
Endrin	ND		ug/kg	0.657	--	A
Endrin ketone	ND		ug/kg	1.58	--	A
Dieldrin	ND		ug/kg	0.986	--	A
4,4'-DDE	ND		ug/kg	1.58	--	A
4,4'-DDD	ND		ug/kg	1.58	--	A
4,4'-DDT	ND		ug/kg	2.96	--	A
Endosulfan I	ND		ug/kg	1.58	--	A
Endosulfan II	ND		ug/kg	1.58	--	A
Endosulfan sulfate	ND		ug/kg	0.657	--	A
Methoxychlor	ND		ug/kg	2.96	--	A
Chlordane	ND		ug/kg	13.1	--	A
Hexachlorobenzene	ND		ug/kg	1.58	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		30-150	A
Decachlorobiphenyl	75		30-150	A
2,4,5,6-Tetrachloro-m-xylene	82		30-150	B
Decachlorobiphenyl	77		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940

Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Chlorinated Herbicides - Westborough Lab Associated sample(s): 01,03 Batch: WG1490556-2 WG1490556-3									
MCPP	92		93		40-140	1		30	A
MCPA	74		72		40-140	3		30	A
Dalapon	74		72		40-140	3		30	A
Dicamba	78		77		40-140	1		30	A
Dichloroprop	91		90		40-140	1		30	A
2,4-D	81		79		40-140	3		30	A
2,4-DB	93		77		40-140	19		30	A
2,4,5-T	81		77		40-140	5		30	A
2,4,5-TP (Silvex)	80		78		40-140	3		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	76		78		30-150	A
DCAA	83		74		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03 Batch: WG1490878-2 WG1490878-3									
Delta-BHC	88		90		40-140	2		30	A
Lindane	85		91		40-140	7		30	A
Alpha-BHC	89		98		40-140	10		30	A
Beta-BHC	84		86		40-140	2		30	A
Heptachlor	87		88		40-140	1		30	A
Aldrin	85		88		40-140	3		30	A
Heptachlor epoxide	80		86		40-140	7		30	A
Endrin	83		88		40-140	6		30	A
Endrin ketone	79		80		40-140	1		30	A
Dieldrin	85		91		40-140	7		30	A
4,4'-DDE	81		88		40-140	8		30	A
4,4'-DDD	89		94		40-140	5		30	A
4,4'-DDT	90		92		40-140	2		30	A
Endosulfan I	78		86		40-140	10		30	A
Endosulfan II	84		88		40-140	5		30	A
Endosulfan sulfate	71		69		40-140	3		30	A
Methoxychlor	78		80		40-140	3		30	A
Hexachlorobenzene	77		81		40-140	5		30	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01,03 Batch: WG1490878-2 WG1490878-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		87		30-150	A
Decachlorobiphenyl	76		78		30-150	A
2,4,5,6-Tetrachloro-m-xylene	81		87		30-150	B
Decachlorobiphenyl	76		80		30-150	B

METALS

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1490606-1										
Antimony, Total	ND		mg/kg	2.00	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Arsenic, Total	ND		mg/kg	0.400	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Barium, Total	ND		mg/kg	0.400	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Beryllium, Total	ND		mg/kg	0.200	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Cadmium, Total	ND		mg/kg	0.400	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Chromium, Total	ND		mg/kg	0.400	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Lead, Total	ND		mg/kg	2.00	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Nickel, Total	ND		mg/kg	1.00	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Selenium, Total	ND		mg/kg	2.00	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Silver, Total	ND		mg/kg	0.400	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Thallium, Total	ND		mg/kg	2.00	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Vanadium, Total	ND		mg/kg	0.400	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV
Zinc, Total	ND		mg/kg	2.00	--	1	04/26/21 08:56	04/26/21 20:02	97,6010D	SV

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1490607-1										
Mercury, Total	ND		mg/kg	0.083	--	1	04/26/21 08:52	04/26/21 11:17	97,7471B	OU

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940

Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1490606-2 WG1490606-3 SRM Lot Number: D109-540								
Antimony, Total	175		175		19-250	0		30
Arsenic, Total	104		105		70-130	1		30
Barium, Total	93		94		75-125	1		30
Beryllium, Total	104		97		75-125	7		30
Cadmium, Total	106		94		75-125	12		30
Chromium, Total	99		96		70-130	3		30
Lead, Total	95		98		72-128	3		30
Nickel, Total	100		96		70-130	4		30
Selenium, Total	105		102		68-132	3		30
Silver, Total	101		102		68-131	1		30
Thallium, Total	97		94		68-131	3		30
Vanadium, Total	97		96		59-141	1		30
Zinc, Total	96		99		70-130	3		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1490607-2 WG1490607-3 SRM Lot Number: D109-540								
Mercury, Total	103		107		60-140	4		30

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

SAMPLE RESULTS

Lab ID: L2120940-02
Client ID: GLC-WASHPS-041221-DC-VOC-6
Sample Location: SOMERVILLE, MA

Date Collected: 04/23/21 11:00
Date Received: 04/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	04/24/21 10:35	121,2540G	RI

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

SAMPLE RESULTS

Lab ID: L2120940-04
Client ID: GLC-OSCDRILLSPOILS-210329-DC-VOC-8
Sample Location: SOMERVILLE, MA

Date Collected: 04/23/21 11:30
Date Received: 04/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.4		%	0.100	NA	1	-	04/24/21 10:35	121,2540G	RI

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2120940

Project Number: 310142.0032 PH3 TK4 **Report Date:** 04/27/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1490495-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	04/25/21 14:55	04/25/21 15:53	125,7.3	NA
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1490496-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	04/25/21 14:55	04/25/21 16:22	125,7.3	NA

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940

Report Date: 04/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1490495-2								
Sulfide, Reactive	81		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1490496-2								
Cyanide, Reactive	90		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1490960-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1491078-1								
Specific Conductance	99		-		99-101	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1490213-1 QC Sample: L2120940-01 Client ID: GLC-WASHPS-041221-DC-COMP						
Solids, Total	84.8	85.3	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1490960-2 QC Sample: L2120940-01 Client ID: GLC-WASHPS-041221-DC-COMP						
pH (H)	8.6	8.5	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1491078-2 QC Sample: L2120940-01 Client ID: GLC-WASHPS-041221-DC-COMP						
Specific Conductance @ 25 C	53	51	umhos/cm	4		20

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2120940-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L2120940-01B	Glass 500ml/16oz unpreserved	A	NA		4.7	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8151-10(14),MCP-8081-10(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L2120940-02A	Vial MeOH preserved	A	NA		4.7	Y	Absent		MCP-8260HLG-10(14)
L2120940-02B	Vial NaHSO4 preserved	A	NA		4.7	Y	Absent		MCP-8260HLG-10(14)
L2120940-02C	Vial NaHSO4 preserved	A	NA		4.7	Y	Absent		MCP-8260HLG-10(14)
L2120940-02D	Plastic 2oz unpreserved for TS	A	NA		4.7	Y	Absent		TS(7)
L2120940-03A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L2120940-03B	Glass 500ml/16oz unpreserved	A	NA		4.7	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8081-10(14),MCP-8151-10(14),MCP-8270-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L2120940-04A	Vial MeOH preserved	A	NA		4.7	Y	Absent		MCP-8260HLG-10(14)
L2120940-04B	Vial NaHSO4 preserved	A	NA		4.7	Y	Absent		MCP-8260HLG-10(14)
L2120940-04C	Vial NaHSO4 preserved	A	NA		4.7	Y	Absent		MCP-8260HLG-10(14)
L2120940-04D	Plastic 2oz unpreserved for TS	A	NA		4.7	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0032 PH3 TK4

Lab Number: L2120940
Report Date: 04/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2120940
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/27/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2120940
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/27/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2120940
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/27/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2120940
Project Number:	310142.0032 PH3 TK4	**Report Date:**	04/27/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

Date Rec'd in Lab: 04/23/21

ALPHA Job #: L2120940

Project Information

Project Name: MBTA GLX Disposal Sampling

Project Location: Somerville, MA

Project #: 310142.0032.0000 Phase 3 Task4

Project Manager: Ryan Niles

ALPHA Quote #: 7623R1

Turn-Around Time

☒ ~~Standard~~ ☒ Rush (ONLY IF PRE-APPROVED)

→ 2-Day TAT

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 164533

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1: <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

stborough, MA 508-898-9220 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

ent Information

ent: C Environmental Corp

dress: 2 Liberty Square

ston, MA 02109

one: 617-476-1303

ail: RNiles@trccompanies.com

These samples have been Previously analyzed by Alpha

her Project Specific Requirements/Comments/Detection Limits:

P PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET.
'l emails: KMorin@trccompanies.com, lvolk@"".com, lnakolan@"".com,
res@"".com
TCLP for any analyte that fails the 20x Rule
VOCs for Low Level first.

ANALYSIS

PHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials
20940-01	GLC-WashPS-041221-DC-Comp	4/23/21	1100	S	CR
-02	GLC-WashPS-041221-DC-VCC-6		1100		
-03	GLC-OSCDrillSpoils-210329-DC-Comp		1130		
-04	GLC-OSCDrillSpoils-210329-DC-VCC-8		1130		

VOCs via 5035/8260C (High Level) | VOCs via 5035/8260C (Low Level) | SVOCs via 8270D | TPH via 8015C GC-FID Quantitation | PCBs via 8082A w/Soxhlet extraction | MCP 14 Metals via 6010C/7471B | Reactive Sulfide & Cyanide via 7.3 | TCLP Lead - See comment | Ignitability via 1030, pH via 9045 | Specific Conductance via 9050 | Pesticides and Herbicides | TOTAL # BOTTLES

		☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐
☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

SE ANSWER QUESTIONS ABOVE!

YOUR PROJECT
MCP or CT RCP?

Container Type	V	V	A	A	A	A	A	A	A	A	A	A
Preservative	F	G	A	A	A	A	A	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
	4/23/21 1510		4/23/21 1510
	4/23/21 1830		4/23/21 1830

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2120940
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4
Lab Sample ID	: WG1491178-5	**Lab File ID**	: V10210426N04
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 04/26/21 17:45

Client Sample No.	Lab Sample ID	Analysis Date
WG1491178-3LCS	WG1491178-3	04/26/21 16:24
WG1491178-4LCSD	WG1491178-4	04/26/21 16:51
GLC-WASHPS-041221-DC-VOC-6	L2120940-02	04/27/21 02:22
GLC-OSCDRILLSPOILS-210329-DC-VOC-8	L2120940-04	04/27/21 02:49

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2120940	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032 PH3 TK4	
Instrument ID	: VOA110		**Calibration Date**	: 04/26/21 16:24	
Lab File ID	: V10210426N01		**Init. Calib. Date(s)**	: 04/20/21	04/21/21
Sample No	: WG1491178-2		**Init. Calib. Times**	: 11:27	00:41
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	66	0
Dichlorodifluoromethane	0.288	0.26	-	9.7	20	62	0
Chloromethane	0.305	0.366	-	-20	20	87	0
Vinyl chloride	0.305	0.313	-	-2.6	20	71	0
Bromomethane	40	48.444	-	-21.1*	20	90	0
Chloroethane	0.186	0.173	-	7	20	63	0
Trichlorofluoromethane	0.325	0.32	-	1.5	20	66	0
Ethyl ether	0.139	0.123	-	11.5	20	61	0
1,1-Dichloroethene	0.203	0.181	-	10.8	20	63	0
Carbon disulfide	0.666	0.594	-	10.8	20	61	0
Freon-113	0.19	0.176*	-	7.4	20	62	.01
Acrolein	0.052	0.048*	-	7.7	20	67	0
Methylene chloride	0.25	0.232	-	7.2	20	65	0
Acetone	40	47.949	-	-19.9	20	78	0
trans-1,2-Dichloroethene	0.229	0.227	-	0.9	20	68	0
Methyl acetate	0.189	0.221	-	-16.9	20	83	0
Methyl tert-butyl ether	0.656	0.643	-	2	20	67	0
tert-Butyl alcohol	0.035	0.032*	-	8.6	20	60	0
Diisopropyl ether	0.84	1.024	-	-21.9*	20	83	0
1,1-Dichloroethane	0.43	0.463	-	-7.7	20	75	0
Halothane	0.167	0.169	-	-1.2	20	69	0
Acrylonitrile	0.09	0.106	-	-17.8	20	84	0
Ethyl tert-butyl ether	0.751	0.804	-	-7.1	20	72	0
Vinyl acetate	0.649	0.784	-	-20.8*	20	81	0
cis-1,2-Dichloroethene	0.253	0.252	-	0.4	20	69	0
2,2-Dichloropropane	0.349	0.341	-	2.3	20	66	0
Bromochloromethane	0.118	0.115	-	2.5	20	67	0
Cyclohexane	0.444	0.505	-	-13.7	20	78	0
Chloroform	0.401	0.404	-	-0.7	20	71	0
Ethyl acetate	0.289	0.33	-	-14.2	20	80	0
Carbon tetrachloride	0.313	0.295	-	5.8	20	63	0
Tetrahydrofuran	0.089	0.102	-	-14.6	20	82	0
Dibromofluoromethane	0.245	0.239	-	2.4	20	66	0
1,1,1-Trichloroethane	0.346	0.341	-	1.4	20	66	0
2-Butanone	0.129	0.147	-	-14	20	81	0
1,1-Dichloropropene	0.305	0.321	-	-5.2	20	70	0
Benzene	0.89	0.947	-	-6.4	20	74	0
tert-Amyl methyl ether	0.638	0.631	-	1.1	20	67	0
1,2-Dichloroethane-d4	0.277	0.277	-	0	20	67	0
1,2-Dichloroethane	0.333	0.335	-	-0.6	20	70	0
Methyl cyclohexane	0.402	0.427	-	-6.2	20	71	0
Trichloroethene	0.24	0.244	-	-1.7	20	70	0
Dibromomethane	0.137	0.139	-	-1.5	20	70	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2120940	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032 PH3 TK4	
Instrument ID	: VOA110		**Calibration Date**	: 04/26/21 16:24	
Lab File ID	: V10210426N01		**Init. Calib. Date(s)**	: 04/20/21	04/21/21
Sample No	: WG1491178-2		**Init. Calib. Times**	: 11:27	00:41
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.252	0.28	-	-11.1	20	77	0
2-Chloroethyl vinyl ether	0.163	0.146	-	10.4	20	60	0
Bromodichloromethane	0.309	0.315	-	-1.9	20	69	0
1,4-Dioxane	0.00297	0.00281*	-	5.4	20	55	0
cis-1,3-Dichloropropene	0.368	0.392	-	-6.5	20	70	0
Chlorobenzene-d5	1	1	-	0	20	65	0
Toluene-d8	1.235	1.279	-	-3.6	20	68	0
Toluene	40	40.17	-	-0.4	20	68	0
4-Methyl-2-pentanone	0.124	0.137	-	-10.5	20	71	0
Tetrachloroethene	0.324	0.313	-	3.4	20	64	0
trans-1,3-Dichloropropene	0.427	0.453	-	-6.1	20	69	0
Ethyl methacrylate	0.379	0.393	-	-3.7	20	68	0
1,1,2-Trichloroethane	0.214	0.231	-	-7.9	20	75	0
Chlorodibromomethane	0.279	0.288	-	-3.2	20	65	0
1,3-Dichloropropane	0.442	0.477	-	-7.9	20	73	0
1,2-Dibromoethane	0.265	0.268	-	-1.1	20	66	0
2-Hexanone	0.246	0.272	-	-10.6	20	75	0
Chlorobenzene	0.867	0.866	-	0.1	20	68	0
Ethylbenzene	1.411	1.43	-	-1.3	20	70	0
1,1,1,2-Tetrachloroethane	0.295	0.295	-	0	20	64	0
p/m Xylene	0.564	0.573	-	-1.6	20	69	0
o Xylene	0.535	0.55	-	-2.8	20	69	0
Styrene	0.908	0.945	-	-4.1	20	69	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	68	0
Bromoform	0.364	0.306	-	15.9	20	59	0
Isopropylbenzene	2.552	2.55	-	0.1	20	68	0
4-Bromofluorobenzene	0.84	0.845	-	-0.6	20	67	0
Bromobenzene	0.68	0.633	-	6.9	20	65	0
n-Propylbenzene	2.983	3.145	-	-5.4	20	73	0
1,4-Dichlorobutane	0.976	1.114	-	-14.1	20	80	0
1,1,2,2-Tetrachloroethane	0.597	0.664	-	-11.2	20	75	0
4-Ethyltoluene	2.533	2.61	-	-3	20	71	0
2-Chlorotoluene	1.75	1.801	-	-2.9	20	72	0
1,3,5-Trimethylbenzene	2.166	2.179	-	-0.6	20	70	0
1,2,3-Trichloropropane	0.505	0.544	-	-7.7	20	72	0
trans-1,4-Dichloro-2-buten	0.221	0.252	-	-14	20	75	0
4-Chlorotoluene	1.824	1.878	-	-3	20	72	0
tert-Butylbenzene	1.983	1.984	-	-0.1	20	68	0
1,2,4-Trimethylbenzene	2.141	2.192	-	-2.4	20	70	0
sec-Butylbenzene	2.808	2.904	-	-3.4	20	71	0
p-Isopropyltoluene	2.604	2.629	-	-1	20	69	0
1,3-Dichlorobenzene	1.328	1.307	-	1.6	20	69	0
1,4-Dichlorobenzene	1.347	1.32	-	2	20	70	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2120940	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0032 PH3 TK4	
Instrument ID	: VOA110		**Calibration Date**	: 04/26/21 16:24	
Lab File ID	: V10210426N01		**Init. Calib. Date(s)**	: 04/20/21	04/21/21
Sample No	: WG1491178-2		**Init. Calib. Times**	: 11:27	00:41
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.554	1.605	-	-3.3	20	70	0
n-Butylbenzene	2.14	2.35	-	-9.8	20	76	0
1,2-Dichlorobenzene	1.24	1.226	-	1.1	20	69	0
1,2,4,5-Tetramethylbenzene	2.438	2.468	-	-1.2	20	68	0
1,2-Dibromo-3-chloropropan	0.117	0.116	-	0.9	20	64	0
1,3,5-Trichlorobenzene	0.99	0.968	-	2.2	20	68	0
Hexachlorobutadiene	0.499	0.446	-	10.6	20	62	0
1,2,4-Trichlorobenzene	0.948	0.907	-	4.3	20	68	0
Naphthalene	2.277	2.257	-	0.9	20	68	0
1,2,3-Trichlorobenzene	0.883	0.86	-	2.6	20	69	0

*** Value outside of QC limits.**

Performance Evaluation Mixture Summary
Form 15
Pesticides

Client	: TRC Environmental Consultants	**Lab Number**	: L2120940
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0032 PH3 TK4
Instrument ID	: PEST10	**Analysis Date**	: 04/27/21 07:38
PEM Standard	: R1426642-1		
Column 1	: RTX-5	**Column 2**	: RTX-CLPPesticides2

Parameter	Signal 1	Signal 2
4,4'-DDE	102100.62114	101946.7632
Endrin	89775082.03283	102523068.23617
4,4'-DDD	238192.9904	767905.2704
4,4'-DDT	148359478.78731	169533531.99674
Endrin Aldehyde	0	0
Endrin Ketone	187773.3992	254681.536

Parameter	%Breakdown 1	%Breakdown 2
Endrin	0.209	0.248
DDT	0.229	0.510

APPENDIX B

DECEMBER 2014 CONTAINED-IN DETERMINATION

GLX CONSTRUCTORS

December 5, 2014

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
205B Lowell Street
Wilmington, Massachusetts 01887

RE: Contained-In Determination for Soil from Site RTN 3-23246
Washington Street Pump Station, Green Line Extension Project
Kleinfelder Project No.: 20140137.001A

Dear Program Manager:

I have made a "contained-in" determination regarding soil from the following M.G.L. c. 21E disposal site:

RTN	3-23246
Site Name	50 Tufts St
Street Address (source of release)	50 Tufts St
Street Address (soil to be managed)	132 Washington Street
City	Somerville
Zip Code	02145

The soil contained the listed hazardous waste with waste code: F002, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U. S. Environmental Protection Agency (USEPA). However, the soil is anticipated to meet all applicable S-1 standards upon removal.

132 Washington Street, which is the planned location of a pump station to be installed as part of the Massachusetts Bay Transportation Authority's (MBTA) Green Line Extension Project, is within the disposal site boundary associated with RTN 3-23246. RTN 3-23246 is associated with a release of chlorinated solvents, including tetrachloroethylene (PCE) and trichloroethylene (TCE), both listed hazardous wastes. While groundwater at 132 Washington Street has been shown to contain PCE and other chlorinated volatile compounds above the RCGW-1 reportable concentration, chlorinated solvents have not been detected in soil at 132 Washington Street at concentrations exceeding S-1/GW-1, S-1/GW-2, or S-1/GW-3 Method 1 Risk Characterization Standards. In one of five samples collected in the proposed pump station area, and analyzed for volatile organic compounds, PCE, TCE, and cis-1,2-dichloroethylene were detected at concentrations above laboratory reporting limits but well below S-1 standards. The Release Abatement Measure (RAM) Plan for the pump station work, to be submitted prior to the initiation of work at 132 Washington Street , will include a detailed description of sampling methods, analytical results, and sample locations. A boring location figure and summary table providing the results of the soil analytical program is attached to this letter. The soil was sampled in a representative manner that adequately demonstrated the levels of hazardous material present in the soil. It was also appropriately characterized. No "hot spots" were identified. In addition, the soil does not exhibit any characteristics of hazardous waste, pursuant to 310 CMR 30.120.

Approximately 5,500 cubic yards of soil from 132 Washington Street are anticipated to be managed as part of pump station construction. Additional samples, at a minimum of one sample per every 500 cubic yards, will be collected either prior to or during excavation. Based on Site delineation work performed in

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relation to RTN 3-23246 and our precharacterization results to-date, we do not anticipate encountering soil containing PCE or other chlorinated volatile organic compounds at concentrations exceeding S-1 standards. However, if soil containing concentrations of PCE or other CVOCs equal to or exceeding S-1 are encountered, this soil will be segregated and managed as a listed hazardous waste. Sampling results will be provided to MassDEP in the RAM status and/or completion reports submitted in relation to the pump station construction.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as a non-hazardous waste until the 21 day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

I, Richard K. Quateman, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By December 5, 2014
Signature Date

LSP #: 7716
LSP Name: Richard K Quateman
Telephone: 617-498-4735 Email: rquateman@kleinfelder.com

For: Ms. Debra Darby
Site Remediation Specialist
Massachusetts Bay Transportation Authority

Attachment: Analytical Data Summary Table

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New Washington St
Tufts St
50 Tufts St
Washington St
NDB-26
KE-202-WS-S/D
KE-117(OW)
NDB-27
KE-116(OW)
KE-115(OW)
Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Copyright:© 2013 Esri, DeLorme, NAVTEQ, TomTom

Legend

Exploration Locations

- Monitoring Well Installed by Kleinfelder
- Soil Boring (Nobis)
- Site

0 15 30 60 90 120

SCALE IN FEET

1 INCH = 50 FEET

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PROJECT NO.	20140137
DRAWN:	11/19/2014
DRAWN BY:	BJS
CHECKED BY:	RKQ
FILE NAME:	WSPS Figure 2

SITE PLAN
132 WASHINGTON STEET

GREEN LINE EXTENSION
132 WASHINGTON STREET
SOMERVILLE, MASSACHUSETTS

FIGURE
1

Table 1
Green Line Extension
132 Washington Street
Analytical Results - Soil
11/19/14

		Location	KE-117	KE-202-WS-D	KE-202-WS-D	KE-202-WS-S	NDB-26	NDB-26	NDB-27
		Start Depth	0.5	19	24	14	0.5	15	6.5
		End Depth	4	21	26	16	12	17	27
		Sample Date	8/23/2012	3/25/2014	3/25/2014	3/25/2014	1/7/2014	1/7/2014	1/6/2014
Analyte	**RCS-1**	**Unit**							
Percent solids	–	%	**87**	**83.5**	**77.5**	**96.5**	**87.5**	**85.1**	**84.1**
Metals									
Antimony	20	mg/kg	< 2.7	NT	NT	NT	< 2.7	NT	< 2.9
Arsenic	20	mg/kg	**5.2**	NT	NT	NT	< 2.7	NT	**3.2**
Barium	1000	mg/kg	**75**	NT	NT	NT	**45**	NT	**29**
Beryllium	100	mg/kg	< 0.27	NT	NT	NT	< 0.27	NT	< 0.29
Cadmium	70	mg/kg	**0.5**	NT	NT	NT	**0.69**	NT	**0.68**
Chromium	100	mg/kg	**24**	NT	NT	NT	**19**	NT	**11**
Lead	200	mg/kg	**270**	NT	NT	NT	**84**	NT	**52**
Mercury	20	mg/kg	**0.26**	NT	NT	NT	**0.17**	NT	**0.11**
Nickel	600	mg/kg	**15**	NT	NT	NT	**13**	NT	**10**
Selenium	400	mg/kg	< 5.5	NT	NT	NT	< 5.4	NT	< 5.8
Silver	100	mg/kg	< 0.55	NT	NT	NT	< 0.54	NT	< 0.58
Thallium	8	mg/kg	< 2.7	NT	NT	NT	< 2.7	NT	< 2.9
Vanadium	400	mg/kg	**30**	NT	NT	NT	**24**	NT	**17**
Zinc	1000	mg/kg	**200**	NT	NT	NT	**82**	NT	**50**
TCLP Lead	–	mg/L	**0.042**	NT	NT	NT	NT	NT	NT
Polychlorinated BiPhenyls (PCBs)									
Aroclor-1016	1	mg/kg	< 0.11	NT	NT	NT	< 0.11	NT	< 0.11
Aroclor-1221	1	mg/kg	< 0.11	NT	NT	NT	< 0.11	NT	< 0.11
Aroclor-1232	1	mg/kg	< 0.11	NT	NT	NT	< 0.11	NT	< 0.11
Aroclor-1242	1	mg/kg	< 0.11	NT	NT	NT	< 0.11	NT	< 0.11
Aroclor-1248	1	mg/kg	< 0.11	NT	NT	NT	< 0.11	NT	< 0.11
Aroclor-1254	1	mg/kg	< 0.11	NT	NT	NT	< 0.11	NT	< 0.11
Aroclor-1260	1	mg/kg	< 0.11	NT	NT	NT	< 0.11	NT	< 0.11
Aroclor-1262	1	mg/kg	< 0.11	NT	NT	NT	< 0.11	NT	< 0.11
Aroclor-1268	1	mg/kg	< 0.11	NT	NT	NT	< 0.11	NT	< 0.11
Semi-Volatile Organic Compounds (SVOCs)									
1,2,4-Trichlorobenzene	2	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
1,2-Dichlorobenzene	9	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
1,2-Diphenylhydrazine	50	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
1,3-Dichlorobenzene	1	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
1,4-Dichlorobenzene	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2,4,5-Trichlorophenol	4	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2,4,6-Trichlorophenol	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2,4-Dichlorophenol	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2,4-Dimethylphenol	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2,4-Dinitrophenol	3	mg/kg	< 0.76	NT	NT	NT	< 0.75	NT	< 0.78
2,4-Dinitrotoluene	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2,6-Dinitrotoluene	100	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2-Chloronaphthalene	1000	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2-Chlorophenol	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2-Methylnaphthalene	0.7	mg/kg	< 0.2	NT	NT	NT	**1.3**	NT	< 0.2
2-Methylphenol	500	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
2-Nitrophenol	100	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
3- and 4-Methylphenol	–		< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
3,3'-Dichlorobenzidine	1	mg/kg	< 0.2	NT	NT	NT	< 0.19	NT	< 0.2
4-Bromophenyl phenyl ether	100	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
4-Chloroaniline	1	mg/kg	< 0.76	NT	NT	NT	< 0.75	NT	< 0.78
4-Nitrophenol	100	mg/kg	< 0.76	NT	NT	NT	< 0.75	NT	< 0.78
Acenaphthene	4	mg/kg	< 0.2	NT	NT	NT	**1.5**	NT	< 0.2
Acenaphthylene	1	mg/kg	< 0.2	NT	NT	NT	**0.39**	NT	< 0.2
Acetophenone	1000	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Aniline	1000	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Anthracene	1000	mg/kg	**0.22**	NT	NT	NT	**1.8**	NT	**0.37**
Benzo[a]anthracene	7	mg/kg	**0.91**	NT	NT	NT	**2.8**	NT	**0.86**
Benzo[a]pyrene	2	mg/kg	**1**	NT	NT	NT	**2.5**	NT	**0.88**
Benzo[b]fluoranthene	7	mg/kg	**1.2**	NT	NT	NT	**2.9**	NT	**1.1**
Benzo[g,h,i]perylene	1000	mg/kg	**0.66**	NT	NT	NT	**1.1**	NT	**0.46**
Benzo[k]fluoranthene	70	mg/kg	**0.38**	NT	NT	NT	**1.1**	NT	**0.41**
Bis(2-chloroethoxy) methane	500	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Bis(2-chloroethyl) ether	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Bis(2-chloroisopropyl) ether	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Bis(2-ethylhexyl) phthalate	90	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Butyl benzyl phthalate	100	mg/kg	< 0.76	NT	NT	NT	< 0.39	NT	< 0.4
Chrysene	70	mg/kg	**0.9**	NT	NT	NT	**3.1**	NT	**0.88**
Dibenz[a,h]anthracene	0.7	mg/kg	< 0.2	NT	NT	NT	**0.32**	NT	< 0.2
Dibenzofuran	100	mg/kg	< 0.39	NT	NT	NT	**0.75**	NT	< 0.4
Diethyl phthalate	10	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Dimethyl phthalate	0.7	mg/kg	< 0.76	NT	NT	NT	< 0.39	NT	< 0.4
Di-n-butyl phthalate	50	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Di-n-octyl phthalate	1000	mg/kg	< 0.76	NT	NT	NT	< 0.77	NT	< 0.79
Fluoranthene	1000	mg/kg	**1.2**	NT	NT	NT	**5**	NT	**1.4**
Fluorene	1000	mg/kg	< 0.2	NT	NT	NT	**1.6**	NT	< 0.2
Hexachlorobenzene	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Hexachlorobutadiene	30	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Hexachloroethane	0.7	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Indeno[1,2,3-c,d]pyrene	7	mg/kg	**0.89**	NT	NT	NT	**1.2**	NT	**0.49**
Isophorone	100	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Naphthalene	4	mg/kg	< 0.2	NT	NT	NT	**1.1**	NT	< 0.2
Nitrobenzene	500	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Pentachlorophenol	3	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Phenanthrene	10	mg/kg	**0.63**	NT	NT	NT	**5.4**	NT	**0.71**
Phenol	1	mg/kg	< 0.39	NT	NT	NT	< 0.39	NT	< 0.4
Pyrene	1000	mg/kg	**1.2**	NT	NT	NT	**4.4**	NT	**0.91**
Extractable Petroleum Hydrocarbons (EPH)									
2-Methylnaphthalene	0.7	mg/kg	< 0.23	NT	NT	NT	**4.9**	< 1.4	**0.15**
Acenaphthene	4	mg/kg	**0.27**	NT	NT	NT	**4.7**	< 1.4	**0.15**
Acenaphthylene	1	mg/kg	< 0.23	NT	NT	NT	**0.53**	< 1.4	**0.14**
Anthracene	1000	mg/kg	**0.45**	NT	NT	NT	**5.1**	< 1.4	**0.46**
Benzo[a]anthracene	7	mg/kg	**1.6**	NT	NT	NT	**5.4**	< 1.4	**1.1**
Benzo[a]pyrene	2	mg/kg	**1.5**	NT	NT	NT	**5**	< 1.4	**1.3**
Benzo[b]fluoranthene	7	mg/kg	**2**	NT	NT	NT	**6.7**	< 1.4	**1.8**
Benzo[g,h,i]perylene	1000	mg/kg	**1.2**	NT	NT	NT	**2.6**	< 1.4	**0.99**
Benzo[k]fluoranthene	70	mg/kg	**0.92**	NT	NT	NT	**2.4**	< 1.4	**0.66**
Chrysene	70	mg/kg	**1.6**	NT	NT	NT	**6.4**	< 1.4	**1.2**
Dibenz[a,h]anthracene	0.7	mg/kg	< 0.23	NT	NT	NT	**0.79**	< 1.4	**0.27**
Fluoranthene	1000	mg/kg	**2.4**	NT	NT	NT	**15**	< 1.4	**2.2**
Fluorene	1000	mg/kg	**0.42**	NT	NT	NT	**5.5**	< 1.4	**0.28**
Indeno[1,2,3-c,d]pyrene	7	mg/kg	< 0.23	NT	NT	NT	**3**	< 1.4	**1.1**
Naphthalene	4	mg/kg	< 0.23	NT	NT	NT	**3.9**	< 1.4	**0.25**
Phenanthrene	10	mg/kg	**1.4**	NT	NT	NT	**19**	< 1.4	**1.3**
Pyrene	1000	mg/kg	**2.5**	NT	NT	NT	**18**	< 1.4	**2.6**
TPH-C11-C22 aromatics	1000	mg/kg	**150**	NT	NT	NT	**650**	**430**	**160**
TPH-C19-C36 aliphatics	3000	mg/kg	**140**	NT	NT	NT	**500**	**580**	**310**
TPH-C9-C18 aliphatics	1000	mg/kg	**38**	NT	NT	NT	**220**	< 140	**87**

Table 1
Green Line Extension
132 Washington Street
Analytical Results - Soil
11/19/14

		Location	KE-117	KE-202-WS-D	KE-202-WS-D	KE-202-WS-S	NDB-26	NDB-26	NDB-27
		Start Depth	0.5	19	24	14	0.5	15	6.5
		End Depth	4	21	26	16	12	17	27
		Sample Date	8/23/2012	3/25/2014	3/25/2014	3/25/2014	1/7/2014	1/7/2014	1/6/2014
Analyte	**RCS-1**	**Unit**							
Volatile Organic Compounds (VOCs)									
1,1,1,2-Tetrachloroethane	0.1	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,1,1-Trichloroethane	30	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,1,2,2-Tetrachloroethane	0.005	mg/kg	< 0.037	< 0.00077	< 0.00071	< 0.00067	< 0.0018	NT	< 0.002
1,1,2-Trichloroethane	0.1	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,1-Dichloroethane	0.4	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,1-Dichloroethylene	3	mg/kg	< 0.074	< 0.0031	< 0.0028	< 0.0027	< 0.0072	NT	< 0.0082
1,1-Dichloropropene	0.01	mg/kg	< 0.15	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,2,3-Trichlorobenzene	–		< 0.3	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
1,2,3-Trichloropropane	100	mg/kg	< 0.15	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,2,4-Trichlorobenzene	2	mg/kg	< 0.074	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
1,2,4-Trimethylbenzene	1000	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	**0.033**	NT	< 0.0082
1,2-Dibromo-3-chloropropane	10	mg/kg	< 0.37	< 0.0077	< 0.0014	< 0.0067	< 0.018	NT	< 0.02
1,2-Dibromoethane (EDB)	–		< 0.037	< 0.00077	< 0.00071	< 0.00067	< 0.0018	NT	< 0.002
1,2-Dichlorobenzene	9	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,2-Dichloroethane	0.1	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,2-Dichloropropane	0.1	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,3,5-Trimethylbenzene	10	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	**0.012**	NT	< 0.0041
1,3-Dichlorobenzene	1	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,3-Dichloropropane	500	mg/kg	< 0.037	< 0.00077	< 0.00071	< 0.00067	< 0.0018	NT	< 0.002
1,4-Dichlorobenzene	0.7	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
1,4-Dioxane	0.2	mg/kg	< 3.7	< 0.077	< 0.071	< 0.067	< 0.18	NT	< 0.2
2,2-Dichloropropane	0.1	mg/kg	< 0.074	< 0.0077	< 0.0014	< 0.0067	< 0.0036	NT	< 0.0041
2-Butanone	4	mg/kg	< 1.5	< 0.031	< 0.028	< 0.027	< 0.072	NT	< 0.082
2-Chlorotoluene	100	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
2-Hexanone	100	mg/kg	< 0.74	< 0.015	< 0.014	< 0.013	< 0.072	NT	< 0.082
4-Chlorotoluene	100	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
4-Isopropyltoluene	100	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
4-Methyl-2-pentanone	0.4	mg/kg	< 0.74	< 0.015	< 0.014	< 0.013	< 0.036	NT	< 0.041
Acetone	6	mg/kg	< 3.7	< 0.077	< 0.071	< 0.067	< 0.18	NT	< 0.2
Benzene	2	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	**0.0077**	NT	< 0.0041
Bromobenzene	100	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
Bromochloromethane	–		< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
Bromodichloromethane	0.1	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
Bromoform	0.1	mg/kg	< 0.37	< 0.0015	< 0.0014	< 0.0013	< 0.018	NT	< 0.02
Bromomethane	0.5	mg/kg	< 0.15	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
Carbon disulfide	100	mg/kg	< 0.74	< 0.0046	< 0.0043	< 0.004	< 0.011	NT	< 0.012
Carbon tetrachloride	5	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
Chlorobenzene	1	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
Chloroethane	100	mg/kg	< 0.15	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
Chloroform	0.2	mg/kg	< 0.074	< 0.0031	< 0.0028	< 0.0027	< 0.0072	NT	< 0.0082
Chloromethane	100	mg/kg	< 0.15	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
cis-1,2-Dichloroethylene	0.1	mg/kg	< 0.074	< 0.0015	**0.006**	< 0.0013	< 0.0036	NT	< 0.0041
cis-1,3-Dichloropropene	0.01	mg/kg	< 0.074	< 0.00077	< 0.00071	< 0.00067	< 0.0072	NT	< 0.0082
Dibromochloromethane	0.005	mg/kg	< 0.37	< 0.00077	< 0.00071	< 0.00067	< 0.0018	NT	< 0.0021
Dibromomethane	500	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
Dichlorodifluoromethane	1000	mg/kg	< 0.15	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
Diethyl ether	100	mg/kg	< 0.15	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
Ethyl tert-butyl ether	–		< 0.037	< 0.00077	< 0.00071	< 0.00067	< 0.0018	NT	< 0.002
Ethylbenzene	40	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	**0.016**	NT	< 0.0041
Hexachlorobutadiene	30	mg/kg	< 0.074	< 0.0031	< 0.0014	< 0.0027	< 0.0072	NT	< 0.0082
Isopropyl ether	100	mg/kg	< 0.037	< 0.00077	< 0.00071	< 0.00067	< 0.0018	NT	< 0.002
Isopropylbenzene	1000	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	**0.0094**	NT	< 0.0041
m/p-Xylene	100	mg/kg	< 0.15	< 0.0031	< 0.0028	< 0.0027	**0.0085**	NT	< 0.0082
Methyl tert-butyl ether	0.1	mg/kg	< 0.074	< 0.0031	< 0.0028	< 0.0027	< 0.0072	NT	< 0.0082
Methylene chloride	0.1	mg/kg	< 0.37	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
Naphthalene	4	mg/kg	< 0.15	< 0.0077	< 0.0071	< 0.0067	**0.029**	NT	< 0.02
n-Butylbenzene	–		< 0.074	< 0.0031	< 0.0014	< 0.0027	< 0.0072	NT	< 0.0082
o-Xylene	100	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	**0.018**	NT	< 0.0041
Propylbenzene	100	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
sec-Butylbenzene	–		< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
Styrene	3	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
tert-Amyl methyl ether	–		< 0.037	< 0.00077	< 0.00071	< 0.00067	< 0.0018	NT	< 0.002
tert-Butylbenzene	100	mg/kg	< 0.074	< 0.0031	< 0.0014	< 0.0027	< 0.0036	NT	< 0.0041
Tetrachloroethylene	1	mg/kg	< 0.074	< 0.0015	**0.04**	< 0.0013	< 0.0036	NT	< 0.0041
Tetrahydrofuran	500	mg/kg	< 0.3	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
Toluene	30	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	**0.0039**	NT	< 0.0041
trans-1,2-Dichloroethylene	1	mg/kg	< 0.074	< 0.0015	< 0.0014	< 0.0013	< 0.0036	NT	< 0.0041
trans-1,3-Dichloropropene	0.01	mg/kg	< 0.15	< 0.0031	< 0.00071	< 0.0027	< 0.0018	NT	< 0.002
Trichloroethylene	0.3	mg/kg	< 0.074	< 0.0015	**0.0064**	< 0.0013	< 0.0036	NT	< 0.0041
Trichlorofluoromethane	1000	mg/kg	< 0.15	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
Vinyl chloride	0.7	mg/kg	< 0.15	< 0.0077	< 0.0071	< 0.0067	< 0.018	NT	< 0.02
Volatile Petroleum Hydrocarbons (VPH)									
Benzene	2	mg/kg	< 0.049	NT	NT	NT	**0.24**	< 0.15	< 0.16
Ethylbenzene	40	mg/kg	< 0.049	NT	NT	NT	**0.64**	< 0.15	< 0.16
m/p-Xylene	100	mg/kg	< 0.097	NT	NT	NT	**0.58**	< 0.31	< 0.32
Methyl tert-butyl ether	0.1	mg/kg	< 0.049	NT	NT	NT	< 0.15	< 0.15	< 0.16
Naphthalene	4	mg/kg	< 0.24	NT	NT	NT	**3.1**	< 0.77	< 0.8
o-Xylene	100	mg/kg	< 0.049	NT	NT	NT	**0.7**	**0.31**	< 0.16
Toluene	30	mg/kg	< 0.049	NT	NT	NT	**0.37**	< 0.15	< 0.16
VPH C5-C8 aliphatics	100	mg/kg	< 9.7	NT	NT	NT	< 37	< 31	< 32
VPH C9-C10 aromatics	100	mg/kg	< 9.7	NT	NT	NT	**79**	< 31	< 32
VPH C9-C12 aliphatics	1000	mg/kg	< 9.7	NT	NT	NT	< 37	**37**	< 32
Total Petroleum Hydrocarbons (TPH)									
TPH	1000	mg/kg	**220**	NT	NT	NT	**1100**	NT	**380**
Other Analytes									
Specific conductivity	–	µmhos/cm	**46**	NT	NT	NT	**38**	NT	**9.8**
Cyanide reactivity	–	mg/kg	< 4	NT	NT	NT	< 4	NT	< 4
Sulfide reactivity	–	mg/kg	< 20	NT	NT	NT	< 20	NT	< 20
pH	–	SU	**8.2**	NT	NT	NT	**7.4**	NT	**6.6**
Flash point	–	°F	**>212**	NT	NT	NT	**>212**	NT	**>212**

Notes:
Bold - Analyte detected above laboratory reporting limits
Bold and shaded (blue) - Analyte detected above RCS-1
Bold and shaded (yellow) - Analyte detected above TCLP limit
Bold and gray - Reporting limit > RCS-1
– No Standard Promulgated

APPENDIX C

JANUARY 2020 CONTAINED-IN DETERMINATION

GLX CONSTRUCTORS

TRC
2 Liberty Sq., 6th Floor
Boston, MA 02109
T 617.350.3444
TRCcompanies.com

January 16, 2020

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination for Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil from the following M.G.L. c. 21E disposal site:

RTN: 3 - 34742[1]
Site Name: MBTA Green Line Extension
Street Address: 132 Washington Street
City/Town: Somerville, MA
Zip Code: 02145

The soil contained the listed hazardous waste(s) with waste codes: U210 and D039, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

☒ Met all applicable S-1 standards upon removal*; or
☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized in-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

Table 1
Summary of Detected Listed Waste within Contained-In Determination

Sample	Depth	Date	Substance	Results ppm	Applicable S-1 Standard		
					S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
GLX-TPW-401-VOC-3'	3ft	11/6/2019	Tetrachloroethene (127-18-4)	0.041	1 ppm	10 ppm	30 ppm
GLX-TPW-601-VOC-2	2ft	10/20/2019	Tetrachloroethene (127-18-4)	0.0012			
GLX-TPW-601-VOC-3	3ft	10/20/2019	Tetrachloroethene (127-18-4)	0.7			

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Tetrachloroethylene - Analytical results ranged from non-detect (38 samples) to 2.0 mg/kg (GLX-TWP-402 at a depth of 4 feet). GLX-TPW-402 has been delineated as hazardous waste (e.g., greater than S-1 criteria) and is excluded from this contained-in petition. The three samples in the table above are included in this proposed contained-in memorandum.

Trichloroethene – All analytical sample results are non-detect.

1,1,1-trichloroethane – All analytical sample results are non-detect.

These determinations were made through the testing of 42 soil samples, 38 samples were non-detect, three contained detectable PCE but below S-1 standards and eligible for a contained in determination (**Table 1**), and one sample is above Method S-1 standards. A boundary is proposed in **Figure 1** that delineates soils related to this contained-in determination based on the nearest non-detect locations. The three soil samples included in this petition represent a volume of up to1,500 cubic yards. These soil samples were collected to characterize planned Phase 2 excavations on the west side of the right of way (ROW) on 10/20/2019, 11/02/2019 & 11/06/2019. Phase 1, on the east side of the ROW was previously removed (see **Attachment 1**). The Phase 2 soil was sampled in a representative manner that adequately demonstrated the levels of hazardous material present in the soil. It was also appropriately characterized, including the identification and delineation of "hot spots" (e.g., hazardous waste). Such soils will be segregated during/following excavation. I have attached documentation of the methods and results of the sampling and testing of the soil that corroborates the above statements (**Attachment 1**). This documentation includes the location of samples collected as part of Phase 2 and a description of excavation that occurred during Phase 1.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf

of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By: Christopher McDermott 1/16/2020
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Attachment 1: Documentation
Attachment 2: Figure 1 – Delineation and Sample locations
Attachment 3: Analytical Summary Table and Laboratory Data Packages

Attachment 1: Documentation

Methods and Results of the Sampling and Testing of Soil In Support of the Contained-In Determination Petition

Near 132 Washington Street, Somerville, Massachusetts
RTN 3-34742

January 16, 2020

TRC

Project Description

Right of Way Soil Excavation, Roadway Utilities, and Bridge Foundation Construction
Greenline Extension Project
Near 132 Washington Street, Somerville, Massachusetts

The 50 Tufts Street property is located approximately 60 feet east-northeast of the proposed excavation and was historically used for storage and distribution of industrial chemicals and laundry/dry cleaning supplies. Chemicals stored at the property included chlorinated volatile organic compounds (cVOCs), which have been detected in soil and groundwater at the property and at downgradient locations. Response actions for releases from 50 Tufts Street are conducted under Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. Extensive investigations have been performed for RTN 3-23246 and identified cVOC-impacted groundwater has migrated to other properties in the neighborhoods east, south and west of the 50 Tuft Street property, including portions of the Massachusetts Bay Transportation Authority (MBTA) Green Line Extension (GLX) Project adjacent to 50 Tufts Street (the Site). Response Actions on this portion of the GLX Project are being managed as a Release Abatement Measure (RAM) under RTN 3-34742. As the 50 Tufts Street property was used for the storage and distribution of the chemicals listed above, impacted soil and groundwater containing concentrations of these compounds associated with the property use is considered listed (U-listed) hazardous waste if/when it is generated, in accordance with Resource Conservation and Recovery Act (RCRA) regulations. Soils will be generated from this portion of the GLX Project from grading and utility construction in the MBTA right of way (ROW), construction of utilities beneath Washington Street, and construction of foundations for a new railroad bridge over Washington Street.

Phase 1 Excavation Eastern Right of Way

The east side of the right of way (ROW) and Washington Street was sampled and excavated in 2019. A contained-in application was considered for the soil; however, due to schedule constraints, the soil was shipped offsite as a hazardous waste.

Phase 2 Sampling Western Right of Way

TRC collected in-situ soil samples from the western side of the ROW and Washington Street (Phase 2) on October 10, November 2 and 6, 2019 to characterize in-place soils that will be excavated during Project construction. Samples were collected at a rate of one sample per 200 tons of soil anticipated to be managed and analyzed for Volatile Organic Compounds (VOCs) by SW-846 Methods 5035/8260C – High & Low Level

Sample location and depths were designed to target anticipated excavations along the ROW. The sample locations are presented in **Attachment 2**. Table 1 summarizes laboratory analytical results of in-situ samples. PCE was detected in four samples up to 2 mg/kg. Laboratory analytical reports are included in **Attachment 3**.

Soil Characterization to Support Contained-In Determination Petition
TRC conducted Pre-characterization sampling to determine the appropriate classification for management of excavated soils.

- 18 locations (GTX-TWP-601 to 615 and GLX-TPW-401 to 403), were in-situ sampled along the western ROW within the disposal site boundary of RTN 3-23246. Multiple depths were sampled at several sampling locations.
- Analytical testing was conducted at depth intervals consistent with planned construction.
- Based on the analytical results, soils in the vicinity of sample GLX-TPW-402 are presumed to exceed RCS-1 for PCE (1 mg/kg) and therefore be hazardous. The extents of the “hot spot” (e.g., soils with PCE > S-1 criteria) are defined by the nearest non-detect or lower than S-1/GW-1 level sample location. The hot spot region is planned to be disposed as hazardous waste at a RCRA Subtitle C licensed facility.
- Samples from soil boring GLX-TPW-601 and test pit GLX-TPW-401 have detectable concentrations of PCE less than the Method 1 S-1 levels. Based on these results a delineation area has been established for this contained in petition.
- Lab Reports for the In-situ Sampling are attached.
- 4820-5685-3425, v. 1

PHASE 1 EXCAVATION AREA

GLX-TPW-613
GLX-TPW-610
GLX-TPW-612
GLX-TPW-614
GLX-TPW-611
GLX-TPW-609
GLX-TPW-608
GLX-TPW-607
GLX-TPW-606
GLX-TPW-605
GLX-TPW-604
GLX-TPW-603
GLX-TPW-602
GLX-TPW-601
GLX-TPW-401
GLX-TPW-402
GLX-TPW-403
GLX-TPW-615
GLC-C13(A)-DC-COMP
GLC-C13(B)-DC-COMP
GLC-C14(B)-DC-COMP
GLC-C14(A)-DC-COMP

EXISTING WASHINGTON STREET PUMP STATION
PROPOSED WASHINGTON STREET PUMP STATION

(40' WIDE - PUBLIC WAY)

N

LEGEND:

- SAMPLE LOCATIONS WITH NO DETECTABLE CONCENTRATIONS OF LISTED WASTES
- SAMPLE LOCATIONS WITH CONCENTRATIONS EXCEEDING S-1 CRITERIA
- SAMPLE LOCATIONS WITH DETECTABLE CONCENTRATIONS BELOW S-1 CRITERIA
- PHASE 2 SOIL TO BE CONSIDERED FOR CONTAINED-IN DETERMINATION
- PHASE 2 SOIL TO BE CONSIDERED HAZARDOUS WASTE
- PHASE 2 SOIL LOCATIONS WITH NO DETECTABLE CONCENTRATIONS OF LISTED WASTES
- PHASE 1 REMOVAL AREA, SOIL EXCAVATION IN (2019)

ALL LOCATIONS ARE APPROXIMATE

1"=50' 50' 0 50'

REFERENCE BASE MAP:
BAI-GLX-EC
HORIZONTAL DATUM: 1983
STATE PLAN FEET
MASSACHUSETTS
VERTICAL DATUM: NAD88

NOT AUTHORIZED FOR CONSTRUCTION

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

GREEN LINE EXTENSION PROJECT
MBTA CONTRACT NO. E22CN07
CAMBRIDGE / SOMERVILLE / MEDFORD, MASSACHUSETTS

WASHINGTON STREET
FIGURE 1
SOIL DELINEATION

GLX CONSTRUCTORS

SCALE:	1"=50'	DRAWN BY	DESIGN BY	CHECK BY	PLAN NO.:	.	ISSUE
DATE:	6/21/19	RI	RI	TC/RN	SHEET:	FIG 1	.

\\boston-fp2\shared\Environmental\Projects\MBTA GLX\STV_GLX 29076\2\CAD\Precharacterization\WashingtonStreetDataMap_121819_Contained-in.dwg

Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project - Washington Street
Somerville, Massachusetts

October and November, 2019

LOCATION				GLX-TPW-403-VOC (3')		GLX-TPW-401-VOC (3')		GLX-TPW-402-VOC (4')		GLX-TPW-601-VOC-2[1]		GLX-TPW-601-VOC-3		GLX-TPW-601-VOC-6		GLX-TPW-615-VOC-1		GLX-TPW-615-VOC-4		GLX-TPW-615-VOC-7		GLX-TPW-615-VOC-10	
SAMPLING DATE				11/6/2019		11/6/2019		11/6/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019	
LAB SAMPLE ID				L1952792-04		L1952792-05		L1952792-06		L1949294-28		L1949294-29		L1949294-30		L1949294-31		L1949294-32		L1949294-33		L1949294-34	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)																							
	CasNum	RCS-1-14	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
General Chemistry																							
Solids, Total	NONE		%	88.1		90.6		84.9		95.1		81.5		90.4		93.1		92.5		96		93.4	
MCP Volatile Organics by EPA 5035																							
Methylene chloride	75-09-2	0.1	mg/kg	0.0089	U	0.33	U	0.3	U	0.0035	U	0.54	U	0.0038	U	0.0041	U	0.0033	U	0.0036	U	0.0037	U
1,1-Dichloroethane	75-34-3	0.4	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Chloroform	67-66-3	0.2	mg/kg	0.0027	U	0.098	U	0.09	U	0.001	U	0.16	U	0.0011	U	0.0012	U	0.00099	U	0.0011	U	0.0011	U
Carbon tetrachloride	56-23-5	5	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
1,2-Dichloropropane	78-87-5	0.1	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Dibromochloromethane	124-48-1	0.005	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
1,1,2-Trichloroethane	79-00-5	0.1	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Tetrachloroethene	127-18-4	1	mg/kg	0.00089	U	0.041		2		0.0012		0.7		0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
Chlorobenzene	108-90-7	1	mg/kg	0.00089	U	0.033	U	0.03	U	0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
Trichlorofluoromethane	75-69-4	1000	mg/kg	0.0071	U	0.26	U	0.24	U	0.0028	U	0.43	U	0.003	U	0.0033	U	0.0026	U	0.0028	U	0.003	U
1,2-Dichloroethane	107-06-2	0.1	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
1,1,1-Trichloroethane	71-55-6	30	mg/kg	0.00089	U	0.033	U	0.03	U	0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
Bromodichloromethane	75-27-4	0.1	mg/kg	0.00089	U	0.033	U	0.03	U	0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
trans-1,3-Dichloropropene	10061-02-6	0.01	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
cis-1,3-Dichloropropene	10061-01-5	0.01	mg/kg	0.00089	U	0.033	U	0.03	U	0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
1,3-Dichloropropene, Total	542-75-6	0.01	mg/kg	0.00089	U	0.033	U	0.03	U	0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
1,1-Dichloropropene	563-58-6		mg/kg	0.00089	U	0.033	U	0.03	U	0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
Bromoform	75-25-2	0.1	mg/kg	0.0071	U	0.26	U	0.24	U	0.0028	U	0.43	U	0.003	U	0.0033	U	0.0026	U	0.0028	U	0.003	U
1,1,2,2-Tetrachloroethane	79-34-5	0.005	mg/kg	0.00089	U	0.033	U	0.03	U	0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
Benzene	71-43-2	2	mg/kg	0.00089	U	0.033	U	0.03	U	0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
Toluene	108-88-3	30	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Ethylbenzene	100-41-4	40	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Chloromethane	74-87-3	100	mg/kg	0.0071	U	0.26	U	0.24	U	0.0028	U	0.43	U	0.003	U	0.0033	U	0.0026	U	0.0028	U	0.003	U
Bromomethane	74-83-9	0.5	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
Vinyl chloride	75-01-4	0.7	mg/kg	0.0023		0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Chloroethane	75-00-3	100	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,1-Dichloroethene	75-35-4	3	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
trans-1,2-Dichloroethene	156-60-5	1	mg/kg	0.0027	U	0.098	U	0.09	U	0.001	U	0.16	U	0.0011	U	0.0012	U	0.00099	U	0.0011	U	0.0011	U
Trichloroethene	79-01-6	0.3	mg/kg	0.00089	U	0.033	U	0.032		0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
1,2-Dichlorobenzene	95-50-1	9	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,3-Dichlorobenzene	541-73-1	3	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,4-Dichlorobenzene	106-46-7	0.7	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
Methyl tert butyl ether	1634-04-4	0.1	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
p/m-Xylene	179601-23-1	100	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
o-Xylene	95-47-6	100	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Xylenes, Total	1330-20-7	100	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
cis-1,2-Dichloroethene	156-59-2	0.1	mg/kg	0.0037		0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
1,2-Dichloroethene, Total	540-59-0		mg/kg	0.0037		0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Dibromomethane	74-95-3	500	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,2,3-Trichloropropane	96-18-4	100	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
Styrene	100-42-5	3	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Dichlorodifluoromethane	75-71-8	1000	mg/kg	0.018	U	0.65	U	0.6	U	0.007	U	1.1	U	0.0076	U	0.0082	U	0.0066	U	0.0071	U	0.0075	U
Acetone	67-64-1	6	mg/kg	0.044	U	0.65	U	0.6	U	0.097		1.1	U	0.034		0.02	U	0.016	U	0.036		0.062	
Carbon disulfide	75-15-0	100	mg/kg	0.018	U	0.65	U	0.6	U	0.007	U	1.1	U	0.0076	U	0.0082	U	0.0066	U	0.0071	U	0.0075	U
Methyl ethyl ketone	78-93-3	4	mg/kg	0.018	U	0.65	U	0.6	U	0.007	U	1.1	U	0.0076	U	0.0082	U	0.0066	U	0.0071	U	0.0075	U
Methyl isobutyl ketone	108-10-1	0.4	mg/kg	0.018	U	0.65	U	0.6	U	0.007	U	1.1	U	0.0076	U	0.0082	U	0.0066	U	0.0071	U	0.0075	U
2-Hexanone	591-78-6	100	mg/kg	0.018	U	0.65	U	0.6	U	0.007	U	1.1	U	0.0076	U	0.0082	U	0.0066	U	0.0071	U	0.0075	U
Bromochloromethane	74-97-5		mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
Tetrahydrofuran	109-99-9	500	mg/kg	0.0071	U	0.26	U	0.24	U	0.0028	U	0.43	U	0.003	U	0.0033	U	0.0026	U	0.0028	U	0.003	U
2,2-Dichloropropane	594-20-7		mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,2-Dibromoethane	106-93-4	0.1	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
1,3-Dichloropropane	142-28-9	500	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,1,1,2-Tetrachloroethane	630-20-6	0.1	mg/kg	0.00089	U	0.033	U	0.03	U	0.00035	U	0.054	U	0.00038	U	0.00041	U	0.00033	U	0.00036	U	0.00037	U
Bromobenzene	108-86-1	100	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
n-Butylbenzene	104-51-8		mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
sec-Butylbenzene	135-98-8		mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
tert-Butylbenzene	98-06-6	100	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
o-Chlorotoluene	95-49-8	100	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
p-Chlorotoluene	106-43-4		mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,2-Dibromo-3-chloropropane	96-12-8	10	mg/kg	0.0053	U	0.2	U	0.18	U	0.0021	U	0.33	U	0.0023	U	0.0024	U	0.002	U	0.0021	U	0.0022	U
Hexachlorobutadiene	87-68-3	30	mg/kg	0.0071	U	0.26	U	0.24	U	0.0028	U	0.43	U	0.003	U	0.0033	U	0.0026	U	0.0028	U	0.003	U
Isopropylbenzene	98-82-8	1000	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
p-Isopropyltoluene	99-87-6	100	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
Naphthalene	91-20-3	4	mg/kg	0.0071	U	0.26	U	0.24	U	0.0028	U	0.43	U	0.003	U	0.0033	U	0.0026	U	0.0028	U	0.003	U
n-Propylbenzene	103-65-1	100	mg/kg	0.0018	U	0.065	U	0.06	U	0.0007	U	0.11	U	0.00076	U	0.00082	U	0.00066	U	0.00071	U	0.00075	U
1,2,3-Trichlorobenzene	87-61-6		mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,2,4-Trichlorobenzene	120-82-1	2	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,3,5-Trimethylbenzene	108-67-8	10	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,2,4-Trimethylbenzene	95-63-6	1000	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
Diethyl ether	60-29-7	100	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
Diisopropyl Ether	108-20-3	100	mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
Ethyl-Tert-Butyl-Ether	637-92-3		mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
Tertiary-Amyl Methyl Ether	994-05-8		mg/kg	0.0036	U	0.13	U	0.12	U	0.0014	U	0.22	U	0.0015	U	0.0016	U	0.0013	U	0.0014	U	0.0015	U
1,4-Dioxane	123-91-1	0.2	mg/kg	0.14	U	5.2	U	4.8	U	0.056	U	8.7	U	0.061	U	0.065	U	0.053	U	0.057	U	0.06	U
Total VOCs			mg/kg	0.006		0.041		2.032		0.0982		0.7		0.034		ND		ND		0.036		0.062	

Yellow shading indicates detected result is equal to or above RCS-1.
Gray shading indicates nondetect detection limit is above RCS-1.

RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effective April 25, 2014.

[1] - The laboratory reported two sets of VOC results due to internal standard and surrogate nonconformances. The highest detected results and lowest detection have been been tabulated. Refer to laboratory report for further detail.
U - Not detected at the reported detection limit for the sample.
ND - Not detected.

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Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project - Washington Street
Somerville, Massachusetts

October and November, 2019

LOCATION				GLX-TPW-615-VOC-13		GLX-TPW-602-VOC-2		GLX-TPW-602-VOC-4.5		GLX-TPW-602-VOC-6.5		GLX-TPW-603-VOC-1.5		GLX-TPW-603-VOC-3		GLX-TPW-604-VOC-1		GLX-TPW-604-VOC-3		GLX-TPW-605-VOC-1		GLX-TPW-605-VOC-3	
SAMPLING DATE				10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019	
LAB SAMPLE ID				L1949294-35		L1949294-36		L1949294-37		L1949294-38		L1949294-39		L1949294-40		L1949294-41		L1949294-42		L1949294-43		L1949294-44	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)																							
	CasNum	RCS-1-14	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
General Chemistry																							
Solids, Total	NONE		%	90.2		91.7		93.4		84.8		96.2		95.7		96.3		90.9		92.7		88.2	
MCP Volatile Organics by EPA 5035																							
Methylene chloride	75-09-2	0.1	mg/kg	0.0034	U	0.28	U	2.4	U	0.005	U	0.0033	U	0.0033	U	0.0034	U	0.0045	U	0.0041	U	0.0047	U
1,1-Dichloroethane	75-34-3	0.4	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Chloroform	67-66-3	0.2	mg/kg	0.001	U	0.084	U	0.71	U	0.0015	U	0.001	U	0.00098	U	0.001	U	0.0013	U	0.0012	U	0.0014	U
Carbon tetrachloride	56-23-5	5	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
1,2-Dichloropropane	78-87-5	0.1	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Dibromochloromethane	124-48-1	0.005	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
1,1,2-Trichloroethane	79-00-5	0.1	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Tetrachloroethene	127-18-4	1	mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
Chlorobenzene	108-90-7	1	mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
Trichlorofluoromethane	75-69-4	1000	mg/kg	0.0027	U	0.22	U	1.9	U	0.004	U	0.0027	U	0.0026	U	0.0027	U	0.0036	U	0.0032	U	0.0038	U
1,2-Dichloroethane	107-06-2	0.1	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
1,1,1-Trichloroethane	71-55-6	30	mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
Bromodichloromethane	75-27-4	0.1	mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
trans-1,3-Dichloropropene	10061-02-6	0.01	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
cis-1,3-Dichloropropene	10061-01-5	0.01	mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
1,3-Dichloropropene, Total	542-75-6	0.01	mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
1,1-Dichloropropene	563-58-6		mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
Bromoform	75-25-2	0.1	mg/kg	0.0027	U	0.22	U	1.9	U	0.004	U	0.0027	U	0.0026	U	0.0027	U	0.0036	U	0.0032	U	0.0038	U
1,1,2,2-Tetrachloroethane	79-34-5	0.005	mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
Benzene	71-43-2	2	mg/kg	0.00034	U	0.044		0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00061		0.00041	U	0.00047	U
Toluene	108-88-3	30	mg/kg	0.00067	U	0.11		0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Ethylbenzene	100-41-4	40	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Chloromethane	74-87-3	100	mg/kg	0.0027	U	0.22	U	1.9	U	0.004	U	0.0027	U	0.0026	U	0.0027	U	0.0036	U	0.0032	U	0.0038	U
Bromomethane	74-83-9	0.5	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
Vinyl chloride	75-01-4	0.7	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Chloroethane	75-00-3	100	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,1-Dichloroethene	75-35-4	3	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
trans-1,2-Dichloroethene	156-60-5	1	mg/kg	0.001	U	0.084	U	0.71	U	0.0015	U	0.001	U	0.00098	U	0.001	U	0.0013	U	0.0012	U	0.0014	U
Trichloroethene	79-01-6	0.3	mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
1,2-Dichlorobenzene	95-50-1	9	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,3-Dichlorobenzene	541-73-1	3	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,4-Dichlorobenzene	106-46-7	0.7	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
Methyl tert butyl ether	1634-04-4	0.1	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
p/m-Xylene	179601-23-1	100	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
o-Xylene	95-47-6	100	mg/kg	0.00067	U	0.078		0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Xylenes, Total	1330-20-7	100	mg/kg	0.00067	U	0.078		0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
cis-1,2-Dichloroethene	156-59-2	0.1	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
1,2-Dichloroethene, Total	540-59-0		mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Dibromomethane	74-95-3	500	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,2,3-Trichloropropane	96-18-4	100	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
Styrene	100-42-5	3	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Dichlorodifluoromethane	75-71-8	1000	mg/kg	0.0067	U	0.56	U	4.7	U	0.01	U	0.0066	U	0.0065	U	0.0068	U	0.0089	U	0.0081	U	0.0094	U
Acetone	67-64-1	6	mg/kg	0.021		0.56	U	4.7	U	0.11		0.022		0.027		0.049		0.041		0.034		0.092	
Carbon disulfide	75-15-0	100	mg/kg	0.0067	U	0.56	U	4.7	U	0.01	U	0.0066	U	0.0065	U	0.0068	U	0.0089	U	0.0081	U	0.0094	U
Methyl ethyl ketone	78-93-3	4	mg/kg	0.0067	U	0.56	U	4.7	U	0.01	U	0.0066	U	0.0065	U	0.0068	U	0.0089	U	0.0081	U	0.0094	U
Methyl isobutyl ketone	108-10-1	0.4	mg/kg	0.0067	U	0.56	U	4.7	U	0.01	U	0.0066	U	0.0065	U	0.0068	U	0.0089	U	0.0081	U	0.0094	U
2-Hexanone	591-78-6	100	mg/kg	0.0067	U	0.56	U	4.7	U	0.01	U	0.0066	U	0.0065	U	0.0068	U	0.0089	U	0.0081	U	0.0094	U
Bromochloromethane	74-97-5		mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
Tetrahydrofuran	109-99-9	500	mg/kg	0.0027	U	0.22	U	1.9	U	0.004	U	0.0027	U	0.0026	U	0.0027	U	0.0036	U	0.0032	U	0.0038	U
2,2-Dichloropropane	594-20-7		mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,2-Dibromoethane	106-93-4	0.1	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
1,3-Dichloropropane	142-28-9	500	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,1,1,2-Tetrachloroethane	630-20-6	0.1	mg/kg	0.00034	U	0.028	U	0.24	U	0.0005	U	0.00033	U	0.00033	U	0.00034	U	0.00045	U	0.00041	U	0.00047	U
Bromobenzene	108-86-1	100	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
n-Butylbenzene	104-51-8		mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
sec-Butylbenzene	135-98-8		mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
tert-Butylbenzene	98-06-6	100	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
o-Chlorotoluene	95-49-8	100	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
p-Chlorotoluene	106-43-4		mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,2-Dibromo-3-chloropropane	96-12-8	10	mg/kg	0.002	U	0.17	U	1.4	U	0.003	U	0.002	U	0.002	U	0.002	U	0.0027	U	0.0024	U	0.0028	U
Hexachlorobutadiene	87-68-3	30	mg/kg	0.0027	U	0.22	U	1.9	U	0.004	U	0.0027	U	0.0026	U	0.0027	U	0.0036	U	0.0032	U	0.0038	U
Isopropylbenzene	98-82-8	1000	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
p-Isopropyltoluene	99-87-6	100	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
Naphthalene	91-20-3	4	mg/kg	0.0027	U	1		93		0.004	U	0.0027	U	0.0026	U	0.0027	U	0.0036	U	0.0032	U	0.0038	U
n-Propylbenzene	103-65-1	100	mg/kg	0.00067	U	0.056	U	0.47	U	0.001	U	0.00066	U	0.00065	U	0.00068	U	0.00089	U	0.00081	U	0.00094	U
1,2,3-Trichlorobenzene	87-61-6		mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,2,4-Trichlorobenzene	120-82-1	2	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,3,5-Trimethylbenzene	108-67-8	10	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,2,4-Trimethylbenzene	95-63-6	1000	mg/kg	0.0013	U	0.11	U	1.2		0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
Diethyl ether	60-29-7	100	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
Diisopropyl Ether	108-20-3	100	mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
Ethyl-Tert-Butyl-Ether	637-92-3		mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
Tertiary-Amyl Methyl Ether	994-05-8		mg/kg	0.0013	U	0.11	U	0.94	U	0.002	U	0.0013	U	0.0013	U	0.0014	U	0.0018	U	0.0016	U	0.0019	U
1,4-Dioxane	123-91-1	0.2	mg/kg	0.054	U	4.5	U	38	U	0.08	U	0.053	U	0.052	U	0.054	U	0.072	U	0.065	U	0.075	U
Total VOCs			mg/kg	0.021		1.232		94.2		0.11		0.022		0.027		0.049		0.04161		0.034		0.092	

Yellow shading indicates detected result is equal to or above RCS-1.
Gray shading indicates nondetect detection limit is above RCS-1.

RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effectiv

[1] - The laboratory reported two sets of VOC results due to internal standa
nonconformances. The highest detected results and lowest detectio
tabulated. Refer to laboratory report for further detail.
U - Not detected at the reported detection limit for the sample.
ND - Not detected.

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Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project - Washington Street
Somerville, Massachusetts

October and November, 2019

LOCATION				DUPA		GLX-TPW-605-VOC-8		GLX-TPW-607-VOC-.6		GLX-TPW-607-VOC-4.6		GLX-TPW-606 (1)		GLX-TPW-606 (4)		GLX-TPW-608 (1)		GLX-TPW-608 (4)		GLX-TPW-609 (1)[1]		GLX-TPW-609 (4)		GLX-TPW-610 (1)[1]	
SAMPLING DATE				10/20/2019		10/20/2019		10/20/2019		10/20/2019		11/2/2019		11/2/2019		11/2/2019		11/2/2019		11/2/2019		11/2/2019		11/2/2019	
LAB SAMPLE ID				L1949294-45		L1949294-46		L1949294-47		L1949294-48		L1952035-02		L1952035-04		L1952035-06		L1952035-08		L1952035-10		L1952035-12		L1952035-14	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)																									
	CasNum	RCS-1-14	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
General Chemistry																									
Solids, Total	NONE		%	88.4		87.1		93.3		90.9		84.8		90.1		88		86.1		92.6		92.7		91.4	
MCP Volatile Organics by EPA 5035																									
Methylene chloride	75-09-2	0.1	mg/kg	0.005	U	0.0036	U	0.0038	U	0.0039	U	0.004	U	0.0024	U	0.0035	U	0.0047	U	0.0034	U	0.0032	U	0.0038	U
1,1-Dichloroethane	75-34-3	0.4	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Chloroform	67-66-3	0.2	mg/kg	0.0015	U	0.0011	U	0.0011	U	0.0012	U	0.0012	U	0.00072	U	0.0011	U	0.0014	U	0.001	U	0.00096	U	0.0011	U
Carbon tetrachloride	56-23-5	5	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
1,2-Dichloropropane	78-87-5	0.1	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Dibromochloromethane	124-48-1	0.005	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
1,1,2-Trichloroethane	79-00-5	0.1	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Tetrachloroethene	127-18-4	1	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
Chlorobenzene	108-90-7	1	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
Trichlorofluoromethane	75-69-4	1000	mg/kg	0.004	U	0.0029	U	0.003	U	0.0031	U	0.0032	U	0.0019	U	0.0028	U	0.0037	U	0.0027	U	0.0026	U	0.003	U
1,2-Dichloroethane	107-06-2	0.1	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
1,1,1-Trichloroethane	71-55-6	30	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
Bromodichloromethane	75-27-4	0.1	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
trans-1,3-Dichloropropene	10061-02-6	0.01	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
cis-1,3-Dichloropropene	10061-01-5	0.01	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
1,3-Dichloropropene, Total	542-75-6	0.01	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
1,1-Dichloropropene	563-58-6		mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
Bromoform	75-25-2	0.1	mg/kg	0.004	U	0.0029	U	0.003	U	0.0031	U	0.0032	U	0.0019	U	0.0028	U	0.0037	U	0.0027	U	0.0026	U	0.003	U
1,1,2,2-Tetrachloroethane	79-34-5	0.005	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
Benzene	71-43-2	2	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
Toluene	108-88-3	30	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Ethylbenzene	100-41-4	40	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Chloromethane	74-87-3	100	mg/kg	0.004	U	0.0029	U	0.003	U	0.0031	U	0.0032	U	0.0019	U	0.0028	U	0.0037	U	0.0027	U	0.0026	U	0.003	U
Bromomethane	74-83-9	0.5	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
Vinyl chloride	75-01-4	0.7	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Chloroethane	75-00-3	100	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,1-Dichloroethene	75-35-4	3	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
trans-1,2-Dichloroethene	156-60-5	1	mg/kg	0.0015	U	0.0011	U	0.0011	U	0.0012	U	0.0012	U	0.00072	U	0.0011	U	0.0014	U	0.001	U	0.00096	U	0.0011	U
Trichloroethene	79-01-6	0.3	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
1,2-Dichlorobenzene	95-50-1	9	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,3-Dichlorobenzene	541-73-1	3	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,4-Dichlorobenzene	106-46-7	0.7	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
Methyl tert butyl ether	1634-04-4	0.1	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
p/m-Xylene	179601-23-1	100	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
o-Xylene	95-47-6	100	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Xylenes, Total	1330-20-7	100	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
cis-1,2-Dichloroethene	156-59-2	0.1	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
1,2-Dichloroethene, Total	540-59-0		mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Dibromomethane	74-95-3	500	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,2,3-Trichloropropane	96-18-4	100	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
Styrene	100-42-5	3	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Dichlorodifluoromethane	75-71-8	1000	mg/kg	0.01	U	0.0072	U	0.0075	U	0.0078	U	0.008	U	0.0048	U	0.0071	U	0.0094	U	0.0069	U	0.0064	U	0.0076	U
Acetone	67-64-1	6	mg/kg	0.061		0.018	U	0.066		0.03		0.043		0.016		0.02		0.053		0.07		0.092		0.18	
Carbon disulfide	75-15-0	100	mg/kg	0.01	U	0.0072	U	0.0075	U	0.0078	U	0.008	U	0.0048	U	0.0071	U	0.0094	U	0.0069	U	0.0064	U	0.0076	U
Methyl ethyl ketone	78-93-3	4	mg/kg	0.01	U	0.0072	U	0.0075	U	0.0078	U	0.008	U	0.0048	U	0.0071	U	0.0094	U	0.0069	U	0.0064	U	0.018	
Methyl isobutyl ketone	108-10-1	0.4	mg/kg	0.01	U	0.0072	U	0.0075	U	0.0078	U	0.008	U	0.0048	U	0.0071	U	0.0094	U	0.0069	U	0.0064	U	0.0076	U
2-Hexanone	591-78-6	100	mg/kg	0.01	U	0.0072	U	0.0075	U	0.0078	U	0.008	U	0.0048	U	0.0071	U	0.0094	U	0.0069	U	0.0064	U	0.0076	U
Bromochloromethane	74-97-5		mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
Tetrahydrofuran	109-99-9	500	mg/kg	0.004	U	0.0029	U	0.003	U	0.0031	U	0.0032	U	0.0019	U	0.0028	U	0.0037	U	0.0027	U	0.0026	U	0.003	U
2,2-Dichloropropane	594-20-7		mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,2-Dibromoethane	106-93-4	0.1	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
1,3-Dichloropropane	142-28-9	500	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,1,1,2-Tetrachloroethane	630-20-6	0.1	mg/kg	0.0005	U	0.00036	U	0.00038	U	0.00039	U	0.0004	U	0.00024	U	0.00035	U	0.00047	U	0.00034	U	0.00032	U	0.00038	U
Bromobenzene	108-86-1	100	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
n-Butylbenzene	104-51-8		mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
sec-Butylbenzene	135-98-8		mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
tert-Butylbenzene	98-06-6	100	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
o-Chlorotoluene	95-49-8	100	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
p-Chlorotoluene	106-43-4		mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,2-Dibromo-3-chloropropane	96-12-8	10	mg/kg	0.003	U	0.0022	U	0.0022	U	0.0024	U	0.0024	U	0.0014	U	0.0021	U	0.0028	U	0.0021	U	0.0019	U	0.0023	U
Hexachlorobutadiene	87-68-3	30	mg/kg	0.004	U	0.0029	U	0.003	U	0.0031	U	0.0032	U	0.0019	U	0.0028	U	0.0037	U	0.0027	U	0.0026	U	0.003	U
Isopropylbenzene	98-82-8	1000	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
p-Isopropyltoluene	99-87-6	100	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
Naphthalene	91-20-3	4	mg/kg	0.004	U	0.0029	U	0.003	U	0.0031	U	0.0032	U	0.0019	U	0.0028	U	0.0037	U	0.0027	U	0.0026	U	0.003	U
n-Propylbenzene	103-65-1	100	mg/kg	0.001	U	0.00072	U	0.00075	U	0.00078	U	0.0008	U	0.00048	U	0.00071	U	0.00094	U	0.00069	U	0.00064	U	0.00076	U
1,2,3-Trichlorobenzene	87-61-6		mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,2,4-Trichlorobenzene	120-82-1	2	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,3,5-Trimethylbenzene	108-67-8	10	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,2,4-Trimethylbenzene	95-63-6	1000	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
Diethyl ether	60-29-7	100	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
Diisopropyl Ether	108-20-3	100	mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
Ethyl-Tert-Butyl-Ether	637-92-3		mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
Tertiary-Amyl Methyl Ether	994-05-8		mg/kg	0.002	U	0.0014	U	0.0015	U	0.0016	U	0.0016	U	0.00096	U	0.0014	U	0.0019	U	0.0014	U	0.0013	U	0.0015	U
1,4-Dioxane	123-91-1	0.2	mg/kg	0.08	U	0.057	U	0.06	U	0.063	U	0.064	U	0.038	U	0.057	U	0.075	U	0.055	U	0.051	U	0.061	U
Total VOCs			mg/kg	0.061		ND		0.066		0.03		0.043		0.016		0.02		0.053		0.07		0.092		0.198	

Yellow shading indicates detected result is equal to or above RCS-1.
Gray shading indicates nondetect detection limit is above RCS-1.

RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effectiv

[1] - The laboratory reported two sets of VOC results due to internal standa
nonconformances. The highest detected results and lowest detectic
tabulated. Refer to laboratory report for further detail.
U - Not detected at the reported detection limit for the sample.
ND - Not detected.

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www.alphalab.com

Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project - Washington Street
Somerville, Massachusetts

October and November, 2019

LOCATION				GLX-TPW-610 (3)		GLX-TPW-610 (7)		GLX-TPW-611-VOC-1.5		GLX-TPW-611-VOC-4		GLX-TPW-612-VOC-1.5		GLX-TPW-612-VOC-4		GLX-TPW-613-VOC-1.5		GLX-TPW-613-VOC-4		GLX-TPW-614-VOC-1		GLX-TPW-614-VOC-4	
SAMPLING DATE				11/2/2019		11/2/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019		10/20/2019	
LAB SAMPLE ID				L1952035-16		L1952035-18		L1949294-49		L1949294-50		L1949294-51		L1949294-52		L1949294-53		L1949294-54		L1949294-55		L1949294-56	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)																							
	CasNum	RCS-1-14	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
General Chemistry																							
Solids, Total	NONE		%	96		94.4		85		93.8		94.2		92.6		93.4		92.5		92.5		93.8	
MCP Volatile Organics by EPA 5035																							
Methylene chloride	75-09-2	0.1	mg/kg	0.0024	U	0.003	U	0.0049	U	0.0037	U	0.0042	U	0.0038	U	0.0034	U	0.0049	U	0.0043	U	0.0035	U
1,1-Dichloroethane	75-34-3	0.4	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Chloroform	67-66-3	0.2	mg/kg	0.00071	U	0.00091	U	0.0015	U	0.0011	U	0.0013	U	0.0011	U	0.001	U	0.0015	U	0.0013	U	0.001	U
Carbon tetrachloride	56-23-5	5	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
1,2-Dichloropropane	78-87-5	0.1	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Dibromochloromethane	124-48-1	0.005	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
1,1,2-Trichloroethane	79-00-5	0.1	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Tetrachloroethene	127-18-4	1	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
Chlorobenzene	108-90-7	1	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
Trichlorofluoromethane	75-69-4	1000	mg/kg	0.0019	U	0.0024	U	0.0039	U	0.003	U	0.0034	U	0.003	U	0.0027	U	0.0039	U	0.0034	U	0.0028	U
1,2-Dichloroethane	107-06-2	0.1	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
1,1,1-Trichloroethane	71-55-6	30	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
Bromodichloromethane	75-27-4	0.1	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
trans-1,3-Dichloropropene	10061-02-6	0.01	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
cis-1,3-Dichloropropene	10061-01-5	0.01	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
1,3-Dichloropropene, Total	542-75-6	0.01	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
1,1-Dichloropropene	563-58-6		mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
Bromoform	75-25-2	0.1	mg/kg	0.0019	U	0.0024	U	0.0039	U	0.003	U	0.0034	U	0.003	U	0.0027	U	0.0039	U	0.0034	U	0.0028	U
1,1,2,2-Tetrachloroethane	79-34-5	0.005	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
Benzene	71-43-2	2	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
Toluene	108-88-3	30	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Ethylbenzene	100-41-4	40	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Chloromethane	74-87-3	100	mg/kg	0.0019	U	0.0024	U	0.0039	U	0.003	U	0.0034	U	0.003	U	0.0027	U	0.0039	U	0.0034	U	0.0028	U
Bromomethane	74-83-9	0.5	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
Vinyl chloride	75-01-4	0.7	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Chloroethane	75-00-3	100	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,1-Dichloroethene	75-35-4	3	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
trans-1,2-Dichloroethene	156-60-5	1	mg/kg	0.00071	U	0.00091	U	0.0015	U	0.0011	U	0.0013	U	0.0011	U	0.001	U	0.0015	U	0.0013	U	0.001	U
Trichloroethene	79-01-6	0.3	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
1,2-Dichlorobenzene	95-50-1	9	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,3-Dichlorobenzene	541-73-1	3	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,4-Dichlorobenzene	106-46-7	0.7	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
Methyl tert butyl ether	1634-04-4	0.1	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
p/m-Xylene	179601-23-1	100	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
o-Xylene	95-47-6	100	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Xylenes, Total	1330-20-7	100	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
cis-1,2-Dichloroethene	156-59-2	0.1	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
1,2-Dichloroethene, Total	540-59-0		mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Dibromomethane	74-95-3	500	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,2,3-Trichloropropane	96-18-4	100	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
Styrene	100-42-5	3	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Dichlorodifluoromethane	75-71-8	1000	mg/kg	0.0048	U	0.0061	U	0.0098	U	0.0074	U	0.0084	U	0.0076	U	0.0068	U	0.0098	U	0.0085	U	0.007	U
Acetone	67-64-1	6	mg/kg	0.018		0.035		0.091		0.028		0.08		0.059		0.028		0.032		0.066		0.017	U
Carbon disulfide	75-15-0	100	mg/kg	0.0048	U	0.0061	U	0.0098	U	0.0074	U	0.0084	U	0.0076	U	0.0068	U	0.0098	U	0.0085	U	0.007	U
Methyl ethyl ketone	78-93-3	4	mg/kg	0.0048	U	0.0061	U	0.0098	U	0.0074	U	0.0084	U	0.0076	U	0.0068	U	0.0098	U	0.0085	U	0.007	U
Methyl isobutyl ketone	108-10-1	0.4	mg/kg	0.0048	U	0.0061	U	0.0098	U	0.0074	U	0.0084	U	0.0076	U	0.0068	U	0.0098	U	0.0085	U	0.007	U
2-Hexanone	591-78-6	100	mg/kg	0.0048	U	0.0061	U	0.0098	U	0.0074	U	0.0084	U	0.0076	U	0.0068	U	0.0098	U	0.0085	U	0.007	U
Bromochloromethane	74-97-5		mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
Tetrahydrofuran	109-99-9	500	mg/kg	0.0019	U	0.0024	U	0.0039		0.003	U	0.0034	U	0.003	U	0.0027	U	0.0039	U	0.0034	U	0.0028	U
2,2-Dichloropropane	594-20-7		mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,2-Dibromoethane	106-93-4	0.1	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
1,3-Dichloropropane	142-28-9	500	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,1,1,2-Tetrachloroethane	630-20-6	0.1	mg/kg	0.00024	U	0.0003	U	0.00049	U	0.00037	U	0.00042	U	0.00038	U	0.00034	U	0.00049	U	0.00043	U	0.00035	U
Bromobenzene	108-86-1	100	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
n-Butylbenzene	104-51-8		mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
sec-Butylbenzene	135-98-8		mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
tert-Butylbenzene	98-06-6	100	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
o-Chlorotoluene	95-49-8	100	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
p-Chlorotoluene	106-43-4		mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,2-Dibromo-3-chloropropane	96-12-8	10	mg/kg	0.0014	U	0.0018	U	0.0029	U	0.0022	U	0.0025	U	0.0023	U	0.002	U	0.0029	U	0.0026	U	0.0021	U
Hexachlorobutadiene	87-68-3	30	mg/kg	0.0019	U	0.0024	U	0.0039	U	0.003	U	0.0034	U	0.003	U	0.0027	U	0.0039	U	0.0034	U	0.0028	U
Isopropylbenzene	98-82-8	1000	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
p-Isopropyltoluene	99-87-6	100	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
Naphthalene	91-20-3	4	mg/kg	0.0019	U	0.0024	U	0.0039	U	0.003	U	0.0034	U	0.003	U	0.0027	U	0.0039	U	0.0034	U	0.0028	U
n-Propylbenzene	103-65-1	100	mg/kg	0.00048	U	0.00061	U	0.00098	U	0.00074	U	0.00084	U	0.00076	U	0.00068	U	0.00098	U	0.00085	U	0.0007	U
1,2,3-Trichlorobenzene	87-61-6		mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,2,4-Trichlorobenzene	120-82-1	2	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,3,5-Trimethylbenzene	108-67-8	10	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,2,4-Trimethylbenzene	95-63-6	1000	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
Diethyl ether	60-29-7	100	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
Diisopropyl Ether	108-20-3	100	mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
Ethyl-Tert-Butyl-Ether	637-92-3		mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
Tertiary-Amyl Methyl Ether	994-05-8		mg/kg	0.00095	U	0.0012	U	0.002	U	0.0015	U	0.0017	U	0.0015	U	0.0014	U	0.002	U	0.0017	U	0.0014	U
1,4-Dioxane	123-91-1	0.2	mg/kg	0.038	U	0.049	U	0.078	U	0.06	U	0.067	U	0.06	U	0.054	U	0.078	U	0.068	U	0.056	U
Total VOCs			mg/kg	0.018		0.035		0.0949		0.028		0.08		0.059		0.028		0.032		0.066		ND	

Yellow shading indicates detected result is equal to or above RCS-1.
Gray shading indicates nondetect detection limit is above RCS-1.

RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effectiv

[4] - The laboratory reported two sets of VOC results due to internal standa
nonconformances. The highest detected results and lowest detectio
tabulated. Refer to laboratory report for further detail.
U - Not detected at the reported detection limit for the sample.
ND - Not detected.

Eight Walkup Drive, Westborough, MA 01581-1019
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www.alphalab.com

Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project - Washington Street
Somerville, Massachusetts

October and November, 2019

LOCATION				DUPB	
SAMPLING DATE				10/20/2019	
LAB SAMPLE ID				L1949294-57	
SAMPLE TYPE				SOIL	
SAMPLE DEPTH (ft.)					
	CasNum	RCS-1-14	Units	Results	Qual
General Chemistry					
Solids, Total	NONE		%	92.7	
MCP Volatile Organics by EPA 5035					
Methylene chloride	75-09-2	0.1	mg/kg	0.0039	U
1,1-Dichloroethane	75-34-3	0.4	mg/kg	0.00078	U
Chloroform	67-66-3	0.2	mg/kg	0.0012	U
Carbon tetrachloride	56-23-5	5	mg/kg	0.00078	U
1,2-Dichloropropane	78-87-5	0.1	mg/kg	0.00078	U
Dibromochloromethane	124-48-1	0.005	mg/kg	0.00078	U
1,1,2-Trichloroethane	79-00-5	0.1	mg/kg	0.00078	U
Tetrachloroethene	127-18-4	1	mg/kg	0.00039	U
Chlorobenzene	108-90-7	1	mg/kg	0.00039	U
Trichlorofluoromethane	75-69-4	1000	mg/kg	0.0031	U
1,2-Dichloroethane	107-06-2	0.1	mg/kg	0.00078	U
1,1,1-Trichloroethane	71-55-6	30	mg/kg	0.00039	U
Bromodichloromethane	75-27-4	0.1	mg/kg	0.00039	U
trans-1,3-Dichloropropene	10061-02-6	0.01	mg/kg	0.00078	U
cis-1,3-Dichloropropene	10061-01-5	0.01	mg/kg	0.00039	U
1,3-Dichloropropene, Total	542-75-6	0.01	mg/kg	0.00039	U
1,1-Dichloropropene	563-58-6		mg/kg	0.00039	U
Bromoform	75-25-2	0.1	mg/kg	0.0031	U
1,1,2,2-Tetrachloroethane	79-34-5	0.005	mg/kg	0.00039	U
Benzene	71-43-2	2	mg/kg	0.00039	U
Toluene	108-88-3	30	mg/kg	0.00078	U
Ethylbenzene	100-41-4	40	mg/kg	0.00078	U
Chloromethane	74-87-3	100	mg/kg	0.0031	U
Bromomethane	74-83-9	0.5	mg/kg	0.0016	U
Vinyl chloride	75-01-4	0.7	mg/kg	0.00078	U
Chloroethane	75-00-3	100	mg/kg	0.0016	U
1,1-Dichloroethene	75-35-4	3	mg/kg	0.00078	U
trans-1,2-Dichloroethene	156-60-5	1	mg/kg	0.0012	U
Trichloroethene	79-01-6	0.3	mg/kg	0.00039	U
1,2-Dichlorobenzene	95-50-1	9	mg/kg	0.0016	U
1,3-Dichlorobenzene	541-73-1	3	mg/kg	0.0016	U
1,4-Dichlorobenzene	106-46-7	0.7	mg/kg	0.0016	U
Methyl tert butyl ether	1634-04-4	0.1	mg/kg	0.0016	U
p/m-Xylene	179601-23-1	100	mg/kg	0.0016	U
o-Xylene	95-47-6	100	mg/kg	0.00078	U
Xylenes, Total	1330-20-7	100	mg/kg	0.00078	U
cis-1,2-Dichloroethene	156-59-2	0.1	mg/kg	0.00078	U
1,2-Dichloroethene, Total	540-59-0		mg/kg	0.00078	U
Dibromomethane	74-95-3	500	mg/kg	0.0016	U
1,2,3-Trichloropropane	96-18-4	100	mg/kg	0.0016	U
Styrene	100-42-5	3	mg/kg	0.00078	U
Dichlorodifluoromethane	75-71-8	1000	mg/kg	0.0078	U
Acetone	67-64-1	6	mg/kg	0.052	
Carbon disulfide	75-15-0	100	mg/kg	0.0078	U
Methyl ethyl ketone	78-93-3	4	mg/kg	0.0078	U
Methyl isobutyl ketone	108-10-1	0.4	mg/kg	0.0078	U
2-Hexanone	591-78-6	100	mg/kg	0.0078	U
Bromochloromethane	74-97-5		mg/kg	0.0016	U
Tetrahydrofuran	109-99-9	500	mg/kg	0.0031	U
2,2-Dichloropropane	594-20-7		mg/kg	0.0016	U
1,2-Dibromoethane	106-93-4	0.1	mg/kg	0.00078	U
1,3-Dichloropropane	142-28-9	500	mg/kg	0.0016	U
1,1,1,2-Tetrachloroethane	630-20-6	0.1	mg/kg	0.00039	U
Bromobenzene	108-86-1	100	mg/kg	0.0016	U
n-Butylbenzene	104-51-8		mg/kg	0.00078	U
sec-Butylbenzene	135-98-8		mg/kg	0.00078	U
tert-Butylbenzene	98-06-6	100	mg/kg	0.0016	U
o-Chlorotoluene	95-49-8	100	mg/kg	0.0016	U
p-Chlorotoluene	106-43-4		mg/kg	0.0016	U
1,2-Dibromo-3-chloropropane	96-12-8	10	mg/kg	0.0023	U
Hexachlorobutadiene	87-68-3	30	mg/kg	0.0031	U
Isopropylbenzene	98-82-8	1000	mg/kg	0.00078	U
p-Isopropyltoluene	99-87-6	100	mg/kg	0.00078	U
Naphthalene	91-20-3	4	mg/kg	0.0031	U
n-Propylbenzene	103-65-1	100	mg/kg	0.00078	U
1,2,3-Trichlorobenzene	87-61-6		mg/kg	0.0016	U
1,2,4-Trichlorobenzene	120-82-1	2	mg/kg	0.0016	U
1,3,5-Trimethylbenzene	108-67-8	10	mg/kg	0.0016	U
1,2,4-Trimethylbenzene	95-63-6	1000	mg/kg	0.0016	U
Diethyl ether	60-29-7	100	mg/kg	0.0016	U
Diisopropyl Ether	108-20-3	100	mg/kg	0.0016	U
Ethyl-Tert-Butyl-Ether	637-92-3		mg/kg	0.0016	U
Tertiary-Amyl Methyl Ether	994-05-8		mg/kg	0.0016	U
1,4-Dioxane	123-91-1	0.2	mg/kg	0.062	U
Total VOCs			mg/kg	0.052	

Yellow shading indicates detected result is equal to or above RCS-1.
Gray shading indicates nondetect detection limit is above RCS-1.

RCS-1-14: MCP 2014 RCS-1 Reportable Concentrations Criteria effectiv

[1] - The laboratory reported two sets of VOC results due to internal standa
nonconformances. The highest detected results and lowest detectio
tabulated. Refer to laboratory report for further detail.
U - Not detected at the reported detection limit for the sample.
ND - Not detected.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 -
www.alphalab.com

ANALYTICAL REPORT

Lab Number:	L1949294
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	LSP WASHINGTON ST PHASE 2
Project Number:	310142.0002.0000
Report Date:	10/23/19

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1949294-01	GLX-TPW-601-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 08:57	10/21/19
L1949294-02	GLX-TPW-601-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:00	10/21/19
L1949294-03	GLX-TPW-601-5-8	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:10	10/21/19
L1949294-04	GLX-TPW-615-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:25	10/21/19
L1949294-05	GLX-TPW-615-5-8	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:33	10/21/19
L1949294-06	GLX-TPW-615-8-12	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:41	10/21/19
L1949294-07	GLX-TPW-615-12-15	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:51	10/21/19
L1949294-08	GLX-TPW-602-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:00	10/21/19
L1949294-09	GLX-TPW-602-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:10	10/21/19
L1949294-10	GLX-TPW-602-5-8	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:20	10/21/19
L1949294-11	GLX-TPW-603-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:25	10/21/19
L1949294-12	GLX-TPW-603-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:30	10/21/19
L1949294-13	GLX-TPW-604-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:45	10/21/19
L1949294-14	GLX-TPW-604-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:55	10/21/19
L1949294-15	GLX-TPW-605-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:00	10/21/19
L1949294-16	GLX-TPW-605-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:10	10/21/19
L1949294-17	GLX-TPW-605-5-8	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:20	10/21/19
L1949294-18	GLX-TPW-607-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:40	10/21/19
L1949294-19	GLX-TPW-607-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:50	10/21/19
L1949294-20	GLX-TPW-611-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:15	10/21/19
L1949294-21	GLX-TPW-611-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:25	10/21/19
L1949294-22	GLX-TPW-612-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:30	10/21/19
L1949294-23	GLX-TPW-612-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:35	10/21/19
L1949294-24	GLX-TPW-613-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:50	10/21/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1949294-25	GLX-TPW-613-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 13:00	10/21/19
L1949294-26	GLX-TPW-614-0-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 13:05	10/21/19
L1949294-27	GLX-TPW-614-2-5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 13:10	10/21/19
L1949294-28	GLX-TPW-601-VOC-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 08:57	10/21/19
L1949294-29	GLX-TPW-601-VOC-3	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:00	10/21/19
L1949294-30	GLX-TPW-601-VOC-6	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:10	10/21/19
L1949294-31	GLX-TPW-615-VOC-1	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:15	10/21/19
L1949294-32	GLX-TPW-615-VOC-4	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:25	10/21/19
L1949294-33	GLX-TPW-615-VOC-7	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:33	10/21/19
L1949294-34	GLX-TPW-615-VOC-10	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:41	10/21/19
L1949294-35	GLX-TPW-615-VOC-13	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 09:51	10/21/19
L1949294-36	GLX-TPW-602-VOC-2	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:00	10/21/19
L1949294-37	GLX-TPW-602-VOC-4.5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:10	10/21/19
L1949294-38	GLX-TPW-602-VOC-6.5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:20	10/21/19
L1949294-39	GLX-TPW-603-VOC-1.5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:25	10/21/19
L1949294-40	GLX-TPW-603-VOC-3	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:30	10/21/19
L1949294-41	GLX-TPW-604-VOC-1	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:45	10/21/19
L1949294-42	GLX-TPW-604-VOC-3	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 10:55	10/21/19
L1949294-43	GLX-TPW-605-VOC-1	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:00	10/21/19
L1949294-44	GLX-TPW-605-VOC-3	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:00	10/21/19
L1949294-45	DUPA	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:11	10/21/19
L1949294-46	GLX-TPW-605-VOC-8	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:20	10/21/19
L1949294-47	GLX-TPW-607-VOC-.6	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:40	10/21/19
L1949294-48	GLX-TPW-607-VOC-4.6	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 11:50	10/21/19
L1949294-49	GLX-TPW-611-VOC-1.5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:15	10/21/19
L1949294-50	GLX-TPW-611-VOC-4	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:25	10/21/19
L1949294-51	GLX-TPW-612-VOC-1.5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:30	10/21/19
L1949294-52	GLX-TPW-612-VOC-4	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:35	10/21/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1949294-53	GLX-TPW-613-VOC-1.5	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 12:50	10/21/19
L1949294-54	GLX-TPW-613-VOC-4	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 13:00	10/21/19
L1949294-55	GLX-TPW-614-VOC-1	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 13:05	10/21/19
L1949294-56	GLX-TPW-614-VOC-4	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 13:10	10/21/19
L1949294-57	DUPB	SOIL	WASHINGTON ST, SOMERVILLE, MA	10/20/19 13:15	10/21/19

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	LSP WASHINGTON ST PHASE 2	**Lab Number:**	L1949294
Project Number:	310142.0002.0000	**Report Date:**	10/23/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	LSP WASHINGTON ST PHASE 2	**Lab Number:**	L1949294
Project Number:	310142.0002.0000	**Report Date:**	10/23/19

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L1949294-35: The collection date and time on the chain of custody was 20-OCT-19 09:51; however, the collection date/time on the container label was 20-OCT-19 09:50. At the client's request, the collection date/time is reported as 20-OCT-19 09:51.

Volatile Organics

In reference to question G:

L1949294-29, -36 and -37: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1949294-28: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (34%) and the surrogate recovery for 4-bromofluorobenzene (136%) were outside the acceptance criteria; however, re-analysis achieved similar results: 1,4-dichlorobenzene-d4 (22%) and 4-bromofluorobenzene (170%). The results of both analyses are reported; however, since the IS response was below method criteria, all associated compounds and surrogate recoveries are considered to have a potentially high bias. Differences were noted between the results of the analyses which have been attributed to vial discrepancies. Further re-analysis could not be performed due to the existing vials being compromised.

The initial calibration, associated with L1949294-28, -36, -37 and -41, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0034), as well as the average response factor for 1,4-dioxane.

The initial calibration, associated with L1949294-29, -30, -31, -32, -33, -34, -35, -38, -39, -40, -42, and -43, did not meet the method required minimum response factor on the lowest calibration standard for acetone (0.0796) and 2-butanone (0.0996), as well as the average response factor for acetone.

The initial calibration, associated with L1949294-44 through -57, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0021), as well as the average response factor for 1,4-dioxane.

Project Name:	LSP WASHINGTON ST PHASE 2	**Lab Number:**	L1949294
Project Number:	310142.0002.0000	**Report Date:**	10/23/19

Case Narrative (continued)

The continuing calibration standards, associated with L1949294-28 through -57, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 10/23/19

QC OUTLIER SUMMARY REPORT

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 High - Westborough Lab								
8260C	Batch QC	WG1299503-3	Dichlorodifluoromethane	LCS	48	70-130	29	potential low bias
8260C	Batch QC	WG1299503-4	Dichlorodifluoromethane	LCSD	46	70-130	29	potential low bias
8260C	Batch QC	WG1299735-3	Dichlorodifluoromethane	LCS	56	70-130	36-37	potential low bias
8260C	Batch QC	WG1299735-4	Dichlorodifluoromethane	LCSD	57	70-130	36-37	potential low bias
8260C	Batch QC	WG1299735-4	1,4-Dioxane	LCSD	22	20	36-37	non-directional bias
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	GLX-TPW-601-VOC-2	L1949294-28	4-Bromofluorobenzene	Surrogate	136	70-130	-	potential high bias
8260C	GLX-TPW-601-VOC-2	L1949294-28 R	4-Bromofluorobenzene	Surrogate	170	70-130	-	potential high bias
8260C	Batch QC	WG1299213-3	Dichlorodifluoromethane	LCS	58	70-130	44-57	potential low bias
8260C	Batch QC	WG1299213-4	Dichlorodifluoromethane	LCSD	59	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Dibromochloromethane	MS	63	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Tetrachloroethene	MS	58	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Chlorobenzene	MS	51	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	trans-1,3-Dichloropropene	MS	46	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	cis-1,3-Dichloropropene	MS	61	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Bromoform	MS	54	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Ethylbenzene	MS	61	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Bromomethane	MS	69	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Trichloroethene	MS	68	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	1,2-Dichlorobenzene	MS	32	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	1,3-Dichlorobenzene	MS	29	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	1,4-Dichlorobenzene	MS	26	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	p/m-Xylene	MS	57	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	o-Xylene	MS	61	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Dibromomethane	MS	61	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Styrene	MS	45	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Dichlorodifluoromethane	MS	69	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Acetone	MS	162	70-130	44-57	potential high bias

QC OUTLIER SUMMARY REPORT

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
8260C	Batch QC (L1949294-48)	WG1299213-6	Bromochloromethane	MS	68	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	1,2-Dibromoethane	MS	54	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Bromobenzene	MS	40	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	n-Butylbenzene	MS	32	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	sec-Butylbenzene	MS	49	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	tert-Butylbenzene	MS	58	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	o-Chlorotoluene	MS	50	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	p-Chlorotoluene	MS	38	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	1,2-Dibromo-3-chloropropane	MS	48	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Hexachlorobutadiene	MS	24	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Isopropylbenzene	MS	62	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	p-Isopropyltoluene	MS	43	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	Naphthalene	MS	19	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	n-Propylbenzene	MS	50	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	1,2,3-Trichlorobenzene	MS	14	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	1,2,4-Trichlorobenzene	MS	13	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	1,3,5-Trimethylbenzene	MS	53	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-6	1,2,4-Trimethylbenzene	MS	47	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Dibromochloromethane	MSD	58	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Tetrachloroethene	MSD	53	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Chlorobenzene	MSD	44	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,2-Dichloroethane	MSD	69	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	trans-1,3-Dichloropropene	MSD	39	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	cis-1,3-Dichloropropene	MSD	55	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Bromoform	MSD	48	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,1,2,2-Tetrachloroethane	MSD	66	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Toluene	MSD	67	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Ethylbenzene	MSD	53	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Chloroethane	MSD	30	70-130	44-57	potential low bias

QC OUTLIER SUMMARY REPORT

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
8260C	Batch QC (L1949294-48)	WG1299213-7	Chloroethane	MSD	88	30	44-57	non-directional bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Trichloroethene	MSD	63	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,2-Dichlorobenzene	MSD	25	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,3-Dichlorobenzene	MSD	24	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,4-Dichlorobenzene	MSD	20	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	p/m-Xylene	MSD	50	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	o-Xylene	MSD	54	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	cis-1,2-Dichloroethene	MSD	69	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Dibromomethane	MSD	56	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,2,3-Trichloropropane	MSD	65	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Styrene	MSD	37	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Dichlorodifluoromethane	MSD	69	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Acetone	MSD	137	70-130	44-57	potential high bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Carbon disulfide	MSD	69	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Bromochloromethane	MSD	64	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,2-Dibromoethane	MSD	46	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,3-Dichloropropane	MSD	65	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,1,1,2-Tetrachloroethane	MSD	64	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Bromobenzene	MSD	32	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	n-Butylbenzene	MSD	26	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	sec-Butylbenzene	MSD	41	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	tert-Butylbenzene	MSD	50	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	o-Chlorotoluene	MSD	43	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	p-Chlorotoluene	MSD	31	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,2-Dibromo-3-chloropropane	MSD	40	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Hexachlorobutadiene	MSD	20	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Isopropylbenzene	MSD	55	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	p-Isopropyltoluene	MSD	36	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	Naphthalene	MSD	12	70-130	44-57	potential low bias

QC OUTLIER SUMMARY REPORT

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
8260C	Batch QC (L1949294-48)	WG1299213-7	Naphthalene	MSD	33	30	44-57	non-directional bias
8260C	Batch QC (L1949294-48)	WG1299213-7	n-Propylbenzene	MSD	42	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,2,3-Trichlorobenzene	MSD	10	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,2,4-Trichlorobenzene	MSD	10	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,3,5-Trimethylbenzene	MSD	45	70-130	44-57	potential low bias
8260C	Batch QC (L1949294-48)	WG1299213-7	1,2,4-Trimethylbenzene	MSD	39	70-130	44-57	potential low bias
8260C	Batch QC	WG1299283-3	Dichlorodifluoromethane	LCS	48	70-130	30-35,38-40,42-43	potential low bias
8260C	Batch QC	WG1299283-4	Dichlorodifluoromethane	LCSD	46	70-130	30-35,38-40,42-43	potential low bias
8260C	Batch QC	WG1299733-3	Dichlorodifluoromethane	LCS	56	70-130	28,41	potential low bias
8260C	Batch QC	WG1299733-4	Dichlorodifluoromethane	LCSD	57	70-130	28,41	potential low bias
8260C	Batch QC	WG1299733-4	1,4-Dioxane	LCSD	22	20	28,41	non-directional bias

ORGANICS

VOLATILES

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-28
Client ID: GLX-TPW-601-VOC-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 08:57
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/23/19 12:55
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.73	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.73	--	1
1,2-Dichloropropane	ND		ug/kg	0.73	--	1
Dibromochloromethane	ND		ug/kg	0.73	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.73	--	1
Tetrachloroethene	0.87		ug/kg	0.36	--	1
Chlorobenzene	ND		ug/kg	0.36	--	1
Trichlorofluoromethane	ND		ug/kg	2.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.73	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.36	--	1
Bromodichloromethane	ND		ug/kg	0.36	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.73	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.36	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.36	--	1
1,1-Dichloropropene	ND		ug/kg	0.36	--	1
Bromoform	ND		ug/kg	2.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Benzene	ND		ug/kg	0.36	--	1
Toluene	ND		ug/kg	0.73	--	1
Ethylbenzene	ND		ug/kg	0.73	--	1
Chloromethane	ND		ug/kg	2.9	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.73	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.73	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-28 Date Collected: 10/20/19 08:57

Client ID: GLX-TPW-601-VOC-2 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.36	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.73	--	1
Xylenes, Total	ND		ug/kg	0.73	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.73	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.73	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.73	--	1
Dichlorodifluoromethane	ND		ug/kg	7.3	--	1
Acetone	22		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	7.3	--	1
Methyl ethyl ketone	ND		ug/kg	7.3	--	1
Methyl isobutyl ketone	ND		ug/kg	7.3	--	1
2-Hexanone	ND		ug/kg	7.3	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	2.9	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.73	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.73	--	1
sec-Butylbenzene	ND		ug/kg	0.73	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	2.9	--	1
Isopropylbenzene	ND		ug/kg	0.73	--	1
p-Isopropyltoluene	ND		ug/kg	0.73	--	1
Naphthalene	ND		ug/kg	2.9	--	1
n-Propylbenzene	ND		ug/kg	0.73	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-28 Date Collected: 10/20/19 08:57

Client ID: GLX-TPW-601-VOC-2 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	58	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**136**	Q	70-130
Dibromofluoromethane	100		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-28 R
Client ID: GLX-TPW-601-VOC-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 08:57
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/23/19 16:09
Analyst: KJD
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.5	--	1
1,1-Dichloroethane	ND		ug/kg	0.70	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.70	--	1
1,2-Dichloropropane	ND		ug/kg	0.70	--	1
Dibromochloromethane	ND		ug/kg	0.70	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.70	--	1
Tetrachloroethene	1.2		ug/kg	0.35	--	1
Chlorobenzene	ND		ug/kg	0.35	--	1
Trichlorofluoromethane	ND		ug/kg	2.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.70	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.35	--	1
Bromodichloromethane	ND		ug/kg	0.35	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.70	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.35	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.35	--	1
1,1-Dichloropropene	ND		ug/kg	0.35	--	1
Bromoform	ND		ug/kg	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.35	--	1
Benzene	ND		ug/kg	0.35	--	1
Toluene	ND		ug/kg	0.70	--	1
Ethylbenzene	ND		ug/kg	0.70	--	1
Chloromethane	ND		ug/kg	2.8	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.70	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.70	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-28 R
Client ID: GLX-TPW-601-VOC-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 08:57
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.35	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.70	--	1
Xylenes, Total	ND		ug/kg	0.70	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.70	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.70	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.70	--	1
Dichlorodifluoromethane	ND		ug/kg	7.0	--	1
Acetone	97		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	7.0	--	1
Methyl ethyl ketone	ND		ug/kg	7.0	--	1
Methyl isobutyl ketone	ND		ug/kg	7.0	--	1
2-Hexanone	ND		ug/kg	7.0	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.70	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.35	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.70	--	1
sec-Butylbenzene	ND		ug/kg	0.70	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.8	--	1
Isopropylbenzene	ND		ug/kg	0.70	--	1
p-Isopropyltoluene	ND		ug/kg	0.70	--	1
Naphthalene	ND		ug/kg	2.8	--	1
n-Propylbenzene	ND		ug/kg	0.70	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-28 R
Client ID: GLX-TPW-601-VOC-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 08:57
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	56	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	122		70-130
4-Bromofluorobenzene	**170**	Q	70-130
Dibromofluoromethane	101		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-29 Date Collected: 10/20/19 09:00
Client ID: GLX-TPW-601-VOC-3 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 18:38
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	540	--	1
1,1-Dichloroethane	ND		ug/kg	110	--	1
Chloroform	ND		ug/kg	160	--	1
Carbon tetrachloride	ND		ug/kg	110	--	1
1,2-Dichloropropane	ND		ug/kg	110	--	1
Dibromochloromethane	ND		ug/kg	110	--	1
1,1,2-Trichloroethane	ND		ug/kg	110	--	1
Tetrachloroethene	700		ug/kg	54	--	1
Chlorobenzene	ND		ug/kg	54	--	1
Trichlorofluoromethane	ND		ug/kg	430	--	1
1,2-Dichloroethane	ND		ug/kg	110	--	1
1,1,1-Trichloroethane	ND		ug/kg	54	--	1
Bromodichloromethane	ND		ug/kg	54	--	1
trans-1,3-Dichloropropene	ND		ug/kg	110	--	1
cis-1,3-Dichloropropene	ND		ug/kg	54	--	1
1,3-Dichloropropene, Total	ND		ug/kg	54	--	1
1,1-Dichloropropene	ND		ug/kg	54	--	1
Bromoform	ND		ug/kg	430	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	54	--	1
Benzene	ND		ug/kg	54	--	1
Toluene	ND		ug/kg	110	--	1
Ethylbenzene	ND		ug/kg	110	--	1
Chloromethane	ND		ug/kg	430	--	1
Bromomethane	ND		ug/kg	220	--	1
Vinyl chloride	ND		ug/kg	110	--	1
Chloroethane	ND		ug/kg	220	--	1
1,1-Dichloroethene	ND		ug/kg	110	--	1
trans-1,2-Dichloroethene	ND		ug/kg	160	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-29 Date Collected: 10/20/19 09:00

Client ID: GLX-TPW-601-VOC-3 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	54	--	1
1,2-Dichlorobenzene	ND		ug/kg	220	--	1
1,3-Dichlorobenzene	ND		ug/kg	220	--	1
1,4-Dichlorobenzene	ND		ug/kg	220	--	1
Methyl tert butyl ether	ND		ug/kg	220	--	1
p/m-Xylene	ND		ug/kg	220	--	1
o-Xylene	ND		ug/kg	110	--	1
Xylenes, Total	ND		ug/kg	110	--	1
cis-1,2-Dichloroethene	ND		ug/kg	110	--	1
1,2-Dichloroethene, Total	ND		ug/kg	110	--	1
Dibromomethane	ND		ug/kg	220	--	1
1,2,3-Trichloropropane	ND		ug/kg	220	--	1
Styrene	ND		ug/kg	110	--	1
Dichlorodifluoromethane	ND		ug/kg	1100	--	1
Acetone	ND		ug/kg	1100	--	1
Carbon disulfide	ND		ug/kg	1100	--	1
Methyl ethyl ketone	ND		ug/kg	1100	--	1
Methyl isobutyl ketone	ND		ug/kg	1100	--	1
2-Hexanone	ND		ug/kg	1100	--	1
Bromochloromethane	ND		ug/kg	220	--	1
Tetrahydrofuran	ND		ug/kg	430	--	1
2,2-Dichloropropane	ND		ug/kg	220	--	1
1,2-Dibromoethane	ND		ug/kg	110	--	1
1,3-Dichloropropane	ND		ug/kg	220	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	54	--	1
Bromobenzene	ND		ug/kg	220	--	1
n-Butylbenzene	ND		ug/kg	110	--	1
sec-Butylbenzene	ND		ug/kg	110	--	1
tert-Butylbenzene	ND		ug/kg	220	--	1
o-Chlorotoluene	ND		ug/kg	220	--	1
p-Chlorotoluene	ND		ug/kg	220	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	330	--	1
Hexachlorobutadiene	ND		ug/kg	430	--	1
Isopropylbenzene	ND		ug/kg	110	--	1
p-Isopropyltoluene	ND		ug/kg	110	--	1
Naphthalene	ND		ug/kg	430	--	1
n-Propylbenzene	ND		ug/kg	110	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-29 Date Collected: 10/20/19 09:00

Client ID: GLX-TPW-601-VOC-3 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	220	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	220	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	220	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	220	--	1
Diethyl ether	ND		ug/kg	220	--	1
Diisopropyl Ether	ND		ug/kg	220	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	220	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	220	--	1
1,4-Dioxane	ND		ug/kg	8700	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	96		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-30 Date Collected: 10/20/19 09:10
Client ID: GLX-TPW-601-VOC-6 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 12:18
Analyst: MKS
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.76	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.76	--	1
1,2-Dichloropropane	ND		ug/kg	0.76	--	1
Dibromochloromethane	ND		ug/kg	0.76	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	--	1
Tetrachloroethene	ND		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.76	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	ND		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.76	--	1
Ethylbenzene	ND		ug/kg	0.76	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.76	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.76	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-30 Date Collected: 10/20/19 09:10

Client ID: GLX-TPW-601-VOC-6 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.76	--	1
Xylenes, Total	ND		ug/kg	0.76	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.76	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.76	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.76	--	1
Dichlorodifluoromethane	ND		ug/kg	7.6	--	1
Acetone	34		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.6	--	1
Methyl ethyl ketone	ND		ug/kg	7.6	--	1
Methyl isobutyl ketone	ND		ug/kg	7.6	--	1
2-Hexanone	ND		ug/kg	7.6	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.76	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.76	--	1
sec-Butylbenzene	ND		ug/kg	0.76	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.76	--	1
p-Isopropyltoluene	ND		ug/kg	0.76	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.76	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-30 Date Collected: 10/20/19 09:10

Client ID: GLX-TPW-601-VOC-6 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	61	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-31
Client ID: GLX-TPW-615-VOC-1
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 09:15
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 12:45
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.1	--	1
1,1-Dichloroethane	ND		ug/kg	0.82	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.82	--	1
1,2-Dichloropropane	ND		ug/kg	0.82	--	1
Dibromochloromethane	ND		ug/kg	0.82	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.82	--	1
Tetrachloroethene	ND		ug/kg	0.41	--	1
Chlorobenzene	ND		ug/kg	0.41	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.82	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	--	1
Bromodichloromethane	ND		ug/kg	0.41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.82	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	--	1
1,1-Dichloropropene	ND		ug/kg	0.41	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Benzene	ND		ug/kg	0.41	--	1
Toluene	ND		ug/kg	0.82	--	1
Ethylbenzene	ND		ug/kg	0.82	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.82	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.82	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-31 Date Collected: 10/20/19 09:15

Client ID: GLX-TPW-615-VOC-1 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.41	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.82	--	1
Xylenes, Total	ND		ug/kg	0.82	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.82	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.82	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.82	--	1
Dichlorodifluoromethane	ND		ug/kg	8.2	--	1
Acetone	ND		ug/kg	20	--	1
Carbon disulfide	ND		ug/kg	8.2	--	1
Methyl ethyl ketone	ND		ug/kg	8.2	--	1
Methyl isobutyl ketone	ND		ug/kg	8.2	--	1
2-Hexanone	ND		ug/kg	8.2	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.82	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.82	--	1
sec-Butylbenzene	ND		ug/kg	0.82	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.4	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.82	--	1
p-Isopropyltoluene	ND		ug/kg	0.82	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.82	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-31 Date Collected: 10/20/19 09:15

Client ID: GLX-TPW-615-VOC-1 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	65	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	100		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-32 Date Collected: 10/20/19 09:25
Client ID: GLX-TPW-615-VOC-4 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 13:12
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.3	--	1
1,1-Dichloroethane	ND		ug/kg	0.66	--	1
Chloroform	ND		ug/kg	0.99	--	1
Carbon tetrachloride	ND		ug/kg	0.66	--	1
1,2-Dichloropropane	ND		ug/kg	0.66	--	1
Dibromochloromethane	ND		ug/kg	0.66	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.66	--	1
Tetrachloroethene	ND		ug/kg	0.33	--	1
Chlorobenzene	ND		ug/kg	0.33	--	1
Trichlorofluoromethane	ND		ug/kg	2.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.66	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.33	--	1
Bromodichloromethane	ND		ug/kg	0.33	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.66	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.33	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.33	--	1
1,1-Dichloropropene	ND		ug/kg	0.33	--	1
Bromoform	ND		ug/kg	2.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Benzene	ND		ug/kg	0.33	--	1
Toluene	ND		ug/kg	0.66	--	1
Ethylbenzene	ND		ug/kg	0.66	--	1
Chloromethane	ND		ug/kg	2.6	--	1
Bromomethane	ND		ug/kg	1.3	--	1
Vinyl chloride	ND		ug/kg	0.66	--	1
Chloroethane	ND		ug/kg	1.3	--	1
1,1-Dichloroethene	ND		ug/kg	0.66	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.99	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-32 Date Collected: 10/20/19 09:25

Client ID: GLX-TPW-615-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.33	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.3	--	1
Methyl tert butyl ether	ND		ug/kg	1.3	--	1
p/m-Xylene	ND		ug/kg	1.3	--	1
o-Xylene	ND		ug/kg	0.66	--	1
Xylenes, Total	ND		ug/kg	0.66	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.66	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.66	--	1
Dibromomethane	ND		ug/kg	1.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.3	--	1
Styrene	ND		ug/kg	0.66	--	1
Dichlorodifluoromethane	ND		ug/kg	6.6	--	1
Acetone	ND		ug/kg	16	--	1
Carbon disulfide	ND		ug/kg	6.6	--	1
Methyl ethyl ketone	ND		ug/kg	6.6	--	1
Methyl isobutyl ketone	ND		ug/kg	6.6	--	1
2-Hexanone	ND		ug/kg	6.6	--	1
Bromochloromethane	ND		ug/kg	1.3	--	1
Tetrahydrofuran	ND		ug/kg	2.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.3	--	1
1,2-Dibromoethane	ND		ug/kg	0.66	--	1
1,3-Dichloropropane	ND		ug/kg	1.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Bromobenzene	ND		ug/kg	1.3	--	1
n-Butylbenzene	ND		ug/kg	0.66	--	1
sec-Butylbenzene	ND		ug/kg	0.66	--	1
tert-Butylbenzene	ND		ug/kg	1.3	--	1
o-Chlorotoluene	ND		ug/kg	1.3	--	1
p-Chlorotoluene	ND		ug/kg	1.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.6	--	1
Isopropylbenzene	ND		ug/kg	0.66	--	1
p-Isopropyltoluene	ND		ug/kg	0.66	--	1
Naphthalene	ND		ug/kg	2.6	--	1
n-Propylbenzene	ND		ug/kg	0.66	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-32 Date Collected: 10/20/19 09:25

Client ID: GLX-TPW-615-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.3	--	1
Diethyl ether	ND		ug/kg	1.3	--	1
Diisopropyl Ether	ND		ug/kg	1.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.3	--	1
1,4-Dioxane	ND		ug/kg	53	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-33 Date Collected: 10/20/19 09:33
Client ID: GLX-TPW-615-VOC-7 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 13:39
Analyst: MKS
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.71	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.71	--	1
1,2-Dichloropropane	ND		ug/kg	0.71	--	1
Dibromochloromethane	ND		ug/kg	0.71	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.71	--	1
Tetrachloroethene	ND		ug/kg	0.36	--	1
Chlorobenzene	ND		ug/kg	0.36	--	1
Trichlorofluoromethane	ND		ug/kg	2.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.71	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.36	--	1
Bromodichloromethane	ND		ug/kg	0.36	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.71	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.36	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.36	--	1
1,1-Dichloropropene	ND		ug/kg	0.36	--	1
Bromoform	ND		ug/kg	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Benzene	ND		ug/kg	0.36	--	1
Toluene	ND		ug/kg	0.71	--	1
Ethylbenzene	ND		ug/kg	0.71	--	1
Chloromethane	ND		ug/kg	2.8	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.71	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.71	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-33 Date Collected: 10/20/19 09:33

Client ID: GLX-TPW-615-VOC-7 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.36	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.71	--	1
Xylenes, Total	ND		ug/kg	0.71	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.71	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.71	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.71	--	1
Dichlorodifluoromethane	ND		ug/kg	7.1	--	1
Acetone	36		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	7.1	--	1
Methyl ethyl ketone	ND		ug/kg	7.1	--	1
Methyl isobutyl ketone	ND		ug/kg	7.1	--	1
2-Hexanone	ND		ug/kg	7.1	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.71	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.71	--	1
sec-Butylbenzene	ND		ug/kg	0.71	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.8	--	1
Isopropylbenzene	ND		ug/kg	0.71	--	1
p-Isopropyltoluene	ND		ug/kg	0.71	--	1
Naphthalene	ND		ug/kg	2.8	--	1
n-Propylbenzene	ND		ug/kg	0.71	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-33 Date Collected: 10/20/19 09:33

Client ID: GLX-TPW-615-VOC-7 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	57	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-34 Date Collected: 10/20/19 09:41
Client ID: GLX-TPW-615-VOC-10 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 14:06
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.75	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.75	--	1
1,2-Dichloropropane	ND		ug/kg	0.75	--	1
Dibromochloromethane	ND		ug/kg	0.75	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.75	--	1
Tetrachloroethene	ND		ug/kg	0.37	--	1
Chlorobenzene	ND		ug/kg	0.37	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.75	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.37	--	1
Bromodichloromethane	ND		ug/kg	0.37	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.75	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.37	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.37	--	1
1,1-Dichloropropene	ND		ug/kg	0.37	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Benzene	ND		ug/kg	0.37	--	1
Toluene	ND		ug/kg	0.75	--	1
Ethylbenzene	ND		ug/kg	0.75	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.75	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.75	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-34 Date Collected: 10/20/19 09:41

Client ID: GLX-TPW-615-VOC-10 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.37	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.75	--	1
Xylenes, Total	ND		ug/kg	0.75	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.75	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.75	--	1
Dichlorodifluoromethane	ND		ug/kg	7.5	--	1
Acetone	62		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.5	--	1
Methyl ethyl ketone	ND		ug/kg	7.5	--	1
Methyl isobutyl ketone	ND		ug/kg	7.5	--	1
2-Hexanone	ND		ug/kg	7.5	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.75	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.75	--	1
sec-Butylbenzene	ND		ug/kg	0.75	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.75	--	1
p-Isopropyltoluene	ND		ug/kg	0.75	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.75	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-34 Date Collected: 10/20/19 09:41

Client ID: GLX-TPW-615-VOC-10 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	60	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-35
Client ID: GLX-TPW-615-VOC-13
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 09:51
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 14:33
Analyst: MKS
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.67	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.67	--	1
1,2-Dichloropropane	ND		ug/kg	0.67	--	1
Dibromochloromethane	ND		ug/kg	0.67	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.67	--	1
Tetrachloroethene	ND		ug/kg	0.34	--	1
Chlorobenzene	ND		ug/kg	0.34	--	1
Trichlorofluoromethane	ND		ug/kg	2.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.67	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.34	--	1
Bromodichloromethane	ND		ug/kg	0.34	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.67	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.34	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.34	--	1
1,1-Dichloropropene	ND		ug/kg	0.34	--	1
Bromoform	ND		ug/kg	2.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Benzene	ND		ug/kg	0.34	--	1
Toluene	ND		ug/kg	0.67	--	1
Ethylbenzene	ND		ug/kg	0.67	--	1
Chloromethane	ND		ug/kg	2.7	--	1
Bromomethane	ND		ug/kg	1.3	--	1
Vinyl chloride	ND		ug/kg	0.67	--	1
Chloroethane	ND		ug/kg	1.3	--	1
1,1-Dichloroethene	ND		ug/kg	0.67	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-35 Date Collected: 10/20/19 09:51

Client ID: GLX-TPW-615-VOC-13 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.34	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.3	--	1
Methyl tert butyl ether	ND		ug/kg	1.3	--	1
p/m-Xylene	ND		ug/kg	1.3	--	1
o-Xylene	ND		ug/kg	0.67	--	1
Xylenes, Total	ND		ug/kg	0.67	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.67	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.67	--	1
Dibromomethane	ND		ug/kg	1.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.3	--	1
Styrene	ND		ug/kg	0.67	--	1
Dichlorodifluoromethane	ND		ug/kg	6.7	--	1
Acetone	21		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	6.7	--	1
Methyl ethyl ketone	ND		ug/kg	6.7	--	1
Methyl isobutyl ketone	ND		ug/kg	6.7	--	1
2-Hexanone	ND		ug/kg	6.7	--	1
Bromochloromethane	ND		ug/kg	1.3	--	1
Tetrahydrofuran	ND		ug/kg	2.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.3	--	1
1,2-Dibromoethane	ND		ug/kg	0.67	--	1
1,3-Dichloropropane	ND		ug/kg	1.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Bromobenzene	ND		ug/kg	1.3	--	1
n-Butylbenzene	ND		ug/kg	0.67	--	1
sec-Butylbenzene	ND		ug/kg	0.67	--	1
tert-Butylbenzene	ND		ug/kg	1.3	--	1
o-Chlorotoluene	ND		ug/kg	1.3	--	1
p-Chlorotoluene	ND		ug/kg	1.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.7	--	1
Isopropylbenzene	ND		ug/kg	0.67	--	1
p-Isopropyltoluene	ND		ug/kg	0.67	--	1
Naphthalene	ND		ug/kg	2.7	--	1
n-Propylbenzene	ND		ug/kg	0.67	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-35 Date Collected: 10/20/19 09:51

Client ID: GLX-TPW-615-VOC-13 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.3	--	1
Diethyl ether	ND		ug/kg	1.3	--	1
Diisopropyl Ether	ND		ug/kg	1.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.3	--	1
1,4-Dioxane	ND		ug/kg	54	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-36
Client ID: GLX-TPW-602-VOC-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 10:00
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/23/19 14:32
Analyst: AD
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	280	--	1
1,1-Dichloroethane	ND		ug/kg	56	--	1
Chloroform	ND		ug/kg	84	--	1
Carbon tetrachloride	ND		ug/kg	56	--	1
1,2-Dichloropropane	ND		ug/kg	56	--	1
Dibromochloromethane	ND		ug/kg	56	--	1
1,1,2-Trichloroethane	ND		ug/kg	56	--	1
Tetrachloroethene	ND		ug/kg	28	--	1
Chlorobenzene	ND		ug/kg	28	--	1
Trichlorofluoromethane	ND		ug/kg	220	--	1
1,2-Dichloroethane	ND		ug/kg	56	--	1
1,1,1-Trichloroethane	ND		ug/kg	28	--	1
Bromodichloromethane	ND		ug/kg	28	--	1
trans-1,3-Dichloropropene	ND		ug/kg	56	--	1
cis-1,3-Dichloropropene	ND		ug/kg	28	--	1
1,3-Dichloropropene, Total	ND		ug/kg	28	--	1
1,1-Dichloropropene	ND		ug/kg	28	--	1
Bromoform	ND		ug/kg	220	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	28	--	1
Benzene	44		ug/kg	28	--	1
Toluene	110		ug/kg	56	--	1
Ethylbenzene	ND		ug/kg	56	--	1
Chloromethane	ND		ug/kg	220	--	1
Bromomethane	ND		ug/kg	110	--	1
Vinyl chloride	ND		ug/kg	56	--	1
Chloroethane	ND		ug/kg	110	--	1
1,1-Dichloroethene	ND		ug/kg	56	--	1
trans-1,2-Dichloroethene	ND		ug/kg	84	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-36 Date Collected: 10/20/19 10:00

Client ID: GLX-TPW-602-VOC-2 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	28	--	1
1,2-Dichlorobenzene	ND		ug/kg	110	--	1
1,3-Dichlorobenzene	ND		ug/kg	110	--	1
1,4-Dichlorobenzene	ND		ug/kg	110	--	1
Methyl tert butyl ether	ND		ug/kg	110	--	1
p/m-Xylene	ND		ug/kg	110	--	1
o-Xylene	78		ug/kg	56	--	1
Xylenes, Total	78		ug/kg	56	--	1
cis-1,2-Dichloroethene	ND		ug/kg	56	--	1
1,2-Dichloroethene, Total	ND		ug/kg	56	--	1
Dibromomethane	ND		ug/kg	110	--	1
1,2,3-Trichloropropane	ND		ug/kg	110	--	1
Styrene	ND		ug/kg	56	--	1
Dichlorodifluoromethane	ND		ug/kg	560	--	1
Acetone	ND		ug/kg	560	--	1
Carbon disulfide	ND		ug/kg	560	--	1
Methyl ethyl ketone	ND		ug/kg	560	--	1
Methyl isobutyl ketone	ND		ug/kg	560	--	1
2-Hexanone	ND		ug/kg	560	--	1
Bromochloromethane	ND		ug/kg	110	--	1
Tetrahydrofuran	ND		ug/kg	220	--	1
2,2-Dichloropropane	ND		ug/kg	110	--	1
1,2-Dibromoethane	ND		ug/kg	56	--	1
1,3-Dichloropropane	ND		ug/kg	110	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	28	--	1
Bromobenzene	ND		ug/kg	110	--	1
n-Butylbenzene	ND		ug/kg	56	--	1
sec-Butylbenzene	ND		ug/kg	56	--	1
tert-Butylbenzene	ND		ug/kg	110	--	1
o-Chlorotoluene	ND		ug/kg	110	--	1
p-Chlorotoluene	ND		ug/kg	110	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	170	--	1
Hexachlorobutadiene	ND		ug/kg	220	--	1
Isopropylbenzene	ND		ug/kg	56	--	1
p-Isopropyltoluene	ND		ug/kg	56	--	1
Naphthalene	1000		ug/kg	220	--	1
n-Propylbenzene	ND		ug/kg	56	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-36 Date Collected: 10/20/19 10:00

Client ID: GLX-TPW-602-VOC-2 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	110	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	110	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	110	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	110	--	1
Diethyl ether	ND		ug/kg	110	--	1
Diisopropyl Ether	ND		ug/kg	110	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	110	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	110	--	1
1,4-Dioxane	ND		ug/kg	4500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	87		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-37 D
Client ID: GLX-TPW-602-VOC-4.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 10:10
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/23/19 14:56
Analyst: AD
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	2400	--	10
1,1-Dichloroethane	ND		ug/kg	470	--	10
Chloroform	ND		ug/kg	710	--	10
Carbon tetrachloride	ND		ug/kg	470	--	10
1,2-Dichloropropane	ND		ug/kg	470	--	10
Dibromochloromethane	ND		ug/kg	470	--	10
1,1,2-Trichloroethane	ND		ug/kg	470	--	10
Tetrachloroethene	ND		ug/kg	240	--	10
Chlorobenzene	ND		ug/kg	240	--	10
Trichlorofluoromethane	ND		ug/kg	1900	--	10
1,2-Dichloroethane	ND		ug/kg	470	--	10
1,1,1-Trichloroethane	ND		ug/kg	240	--	10
Bromodichloromethane	ND		ug/kg	240	--	10
trans-1,3-Dichloropropene	ND		ug/kg	470	--	10
cis-1,3-Dichloropropene	ND		ug/kg	240	--	10
1,3-Dichloropropene, Total	ND		ug/kg	240	--	10
1,1-Dichloropropene	ND		ug/kg	240	--	10
Bromoform	ND		ug/kg	1900	--	10
1,1,2,2-Tetrachloroethane	ND		ug/kg	240	--	10
Benzene	ND		ug/kg	240	--	10
Toluene	ND		ug/kg	470	--	10
Ethylbenzene	ND		ug/kg	470	--	10
Chloromethane	ND		ug/kg	1900	--	10
Bromomethane	ND		ug/kg	940	--	10
Vinyl chloride	ND		ug/kg	470	--	10
Chloroethane	ND		ug/kg	940	--	10
1,1-Dichloroethene	ND		ug/kg	470	--	10
trans-1,2-Dichloroethene	ND		ug/kg	710	--	10

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-37 D
Client ID: GLX-TPW-602-VOC-4.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 10:10
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	240	--	10
1,2-Dichlorobenzene	ND		ug/kg	940	--	10
1,3-Dichlorobenzene	ND		ug/kg	940	--	10
1,4-Dichlorobenzene	ND		ug/kg	940	--	10
Methyl tert butyl ether	ND		ug/kg	940	--	10
p/m-Xylene	ND		ug/kg	940	--	10
o-Xylene	ND		ug/kg	470	--	10
Xylenes, Total	ND		ug/kg	470	--	10
cis-1,2-Dichloroethene	ND		ug/kg	470	--	10
1,2-Dichloroethene, Total	ND		ug/kg	470	--	10
Dibromomethane	ND		ug/kg	940	--	10
1,2,3-Trichloropropane	ND		ug/kg	940	--	10
Styrene	ND		ug/kg	470	--	10
Dichlorodifluoromethane	ND		ug/kg	4700	--	10
Acetone	ND		ug/kg	4700	--	10
Carbon disulfide	ND		ug/kg	4700	--	10
Methyl ethyl ketone	ND		ug/kg	4700	--	10
Methyl isobutyl ketone	ND		ug/kg	4700	--	10
2-Hexanone	ND		ug/kg	4700	--	10
Bromochloromethane	ND		ug/kg	940	--	10
Tetrahydrofuran	ND		ug/kg	1900	--	10
2,2-Dichloropropane	ND		ug/kg	940	--	10
1,2-Dibromoethane	ND		ug/kg	470	--	10
1,3-Dichloropropane	ND		ug/kg	940	--	10
1,1,1,2-Tetrachloroethane	ND		ug/kg	240	--	10
Bromobenzene	ND		ug/kg	940	--	10
n-Butylbenzene	ND		ug/kg	470	--	10
sec-Butylbenzene	ND		ug/kg	470	--	10
tert-Butylbenzene	ND		ug/kg	940	--	10
o-Chlorotoluene	ND		ug/kg	940	--	10
p-Chlorotoluene	ND		ug/kg	940	--	10
1,2-Dibromo-3-chloropropane	ND		ug/kg	1400	--	10
Hexachlorobutadiene	ND		ug/kg	1900	--	10
Isopropylbenzene	ND		ug/kg	470	--	10
p-Isopropyltoluene	ND		ug/kg	470	--	10
Naphthalene	93000		ug/kg	1900	--	10
n-Propylbenzene	ND		ug/kg	470	--	10

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-37 D
Client ID: GLX-TPW-602-VOC-4.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 10:10
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	940	--	10
1,2,4-Trichlorobenzene	ND		ug/kg	940	--	10
1,3,5-Trimethylbenzene	ND		ug/kg	940	--	10
1,2,4-Trimethylbenzene	1200		ug/kg	940	--	10
Diethyl ether	ND		ug/kg	940	--	10
Diisopropyl Ether	ND		ug/kg	940	--	10
Ethyl-Tert-Butyl-Ether	ND		ug/kg	940	--	10
Tertiary-Amyl Methyl Ether	ND		ug/kg	940	--	10
1,4-Dioxane	ND		ug/kg	38000	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	90		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-38
Client ID: GLX-TPW-602-VOC-6.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 10:20
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 15:01
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	ND		ug/kg	0.50	--	1
Chlorobenzene	ND		ug/kg	0.50	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	--	1
Bromodichloromethane	ND		ug/kg	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--	1
1,1-Dichloropropene	ND		ug/kg	0.50	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Benzene	ND		ug/kg	0.50	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.0	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-38 Date Collected: 10/20/19 10:20

Client ID: GLX-TPW-602-VOC-6.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.50	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	110		ug/kg	25	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-38 Date Collected: 10/20/19 10:20

Client ID: GLX-TPW-602-VOC-6.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	100		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-39 Date Collected: 10/20/19 10:25

Client ID: GLX-TPW-603-VOC-1.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 97,8260C

Analytical Date: 10/22/19 15:27

Analyst: MKS

Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.3	--	1
1,1-Dichloroethane	ND		ug/kg	0.66	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.66	--	1
1,2-Dichloropropane	ND		ug/kg	0.66	--	1
Dibromochloromethane	ND		ug/kg	0.66	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.66	--	1
Tetrachloroethene	ND		ug/kg	0.33	--	1
Chlorobenzene	ND		ug/kg	0.33	--	1
Trichlorofluoromethane	ND		ug/kg	2.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.66	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.33	--	1
Bromodichloromethane	ND		ug/kg	0.33	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.66	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.33	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.33	--	1
1,1-Dichloropropene	ND		ug/kg	0.33	--	1
Bromoform	ND		ug/kg	2.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Benzene	ND		ug/kg	0.33	--	1
Toluene	ND		ug/kg	0.66	--	1
Ethylbenzene	ND		ug/kg	0.66	--	1
Chloromethane	ND		ug/kg	2.7	--	1
Bromomethane	ND		ug/kg	1.3	--	1
Vinyl chloride	ND		ug/kg	0.66	--	1
Chloroethane	ND		ug/kg	1.3	--	1
1,1-Dichloroethene	ND		ug/kg	0.66	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-39 Date Collected: 10/20/19 10:25

Client ID: GLX-TPW-603-VOC-1.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.33	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.3	--	1
Methyl tert butyl ether	ND		ug/kg	1.3	--	1
p/m-Xylene	ND		ug/kg	1.3	--	1
o-Xylene	ND		ug/kg	0.66	--	1
Xylenes, Total	ND		ug/kg	0.66	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.66	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.66	--	1
Dibromomethane	ND		ug/kg	1.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.3	--	1
Styrene	ND		ug/kg	0.66	--	1
Dichlorodifluoromethane	ND		ug/kg	6.6	--	1
Acetone	22		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	6.6	--	1
Methyl ethyl ketone	ND		ug/kg	6.6	--	1
Methyl isobutyl ketone	ND		ug/kg	6.6	--	1
2-Hexanone	ND		ug/kg	6.6	--	1
Bromochloromethane	ND		ug/kg	1.3	--	1
Tetrahydrofuran	ND		ug/kg	2.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.3	--	1
1,2-Dibromoethane	ND		ug/kg	0.66	--	1
1,3-Dichloropropane	ND		ug/kg	1.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Bromobenzene	ND		ug/kg	1.3	--	1
n-Butylbenzene	ND		ug/kg	0.66	--	1
sec-Butylbenzene	ND		ug/kg	0.66	--	1
tert-Butylbenzene	ND		ug/kg	1.3	--	1
o-Chlorotoluene	ND		ug/kg	1.3	--	1
p-Chlorotoluene	ND		ug/kg	1.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.7	--	1
Isopropylbenzene	ND		ug/kg	0.66	--	1
p-Isopropyltoluene	ND		ug/kg	0.66	--	1
Naphthalene	ND		ug/kg	2.7	--	1
n-Propylbenzene	ND		ug/kg	0.66	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-39 Date Collected: 10/20/19 10:25

Client ID: GLX-TPW-603-VOC-1.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.3	--	1
Diethyl ether	ND		ug/kg	1.3	--	1
Diisopropyl Ether	ND		ug/kg	1.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.3	--	1
1,4-Dioxane	ND		ug/kg	53	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-40 Date Collected: 10/20/19 10:30
Client ID: GLX-TPW-603-VOC-3 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 15:55
Analyst: MKS
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.3	--	1
1,1-Dichloroethane	ND		ug/kg	0.65	--	1
Chloroform	ND		ug/kg	0.98	--	1
Carbon tetrachloride	ND		ug/kg	0.65	--	1
1,2-Dichloropropane	ND		ug/kg	0.65	--	1
Dibromochloromethane	ND		ug/kg	0.65	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.65	--	1
Tetrachloroethene	ND		ug/kg	0.33	--	1
Chlorobenzene	ND		ug/kg	0.33	--	1
Trichlorofluoromethane	ND		ug/kg	2.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.65	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.33	--	1
Bromodichloromethane	ND		ug/kg	0.33	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.65	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.33	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.33	--	1
1,1-Dichloropropene	ND		ug/kg	0.33	--	1
Bromoform	ND		ug/kg	2.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Benzene	ND		ug/kg	0.33	--	1
Toluene	ND		ug/kg	0.65	--	1
Ethylbenzene	ND		ug/kg	0.65	--	1
Chloromethane	ND		ug/kg	2.6	--	1
Bromomethane	ND		ug/kg	1.3	--	1
Vinyl chloride	ND		ug/kg	0.65	--	1
Chloroethane	ND		ug/kg	1.3	--	1
1,1-Dichloroethene	ND		ug/kg	0.65	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.98	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-40 Date Collected: 10/20/19 10:30

Client ID: GLX-TPW-603-VOC-3 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.33	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.3	--	1
Methyl tert butyl ether	ND		ug/kg	1.3	--	1
p/m-Xylene	ND		ug/kg	1.3	--	1
o-Xylene	ND		ug/kg	0.65	--	1
Xylenes, Total	ND		ug/kg	0.65	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.65	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.65	--	1
Dibromomethane	ND		ug/kg	1.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.3	--	1
Styrene	ND		ug/kg	0.65	--	1
Dichlorodifluoromethane	ND		ug/kg	6.5	--	1
Acetone	27		ug/kg	16	--	1
Carbon disulfide	ND		ug/kg	6.5	--	1
Methyl ethyl ketone	ND		ug/kg	6.5	--	1
Methyl isobutyl ketone	ND		ug/kg	6.5	--	1
2-Hexanone	ND		ug/kg	6.5	--	1
Bromochloromethane	ND		ug/kg	1.3	--	1
Tetrahydrofuran	ND		ug/kg	2.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.3	--	1
1,2-Dibromoethane	ND		ug/kg	0.65	--	1
1,3-Dichloropropane	ND		ug/kg	1.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.33	--	1
Bromobenzene	ND		ug/kg	1.3	--	1
n-Butylbenzene	ND		ug/kg	0.65	--	1
sec-Butylbenzene	ND		ug/kg	0.65	--	1
tert-Butylbenzene	ND		ug/kg	1.3	--	1
o-Chlorotoluene	ND		ug/kg	1.3	--	1
p-Chlorotoluene	ND		ug/kg	1.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.6	--	1
Isopropylbenzene	ND		ug/kg	0.65	--	1
p-Isopropyltoluene	ND		ug/kg	0.65	--	1
Naphthalene	ND		ug/kg	2.6	--	1
n-Propylbenzene	ND		ug/kg	0.65	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-40 Date Collected: 10/20/19 10:30

Client ID: GLX-TPW-603-VOC-3 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.3	--	1
Diethyl ether	ND		ug/kg	1.3	--	1
Diisopropyl Ether	ND		ug/kg	1.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.3	--	1
1,4-Dioxane	ND		ug/kg	52	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-41
Client ID: GLX-TPW-604-VOC-1
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 10:45
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/23/19 12:31
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.68	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.68	--	1
1,2-Dichloropropane	ND		ug/kg	0.68	--	1
Dibromochloromethane	ND		ug/kg	0.68	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.68	--	1
Tetrachloroethene	ND		ug/kg	0.34	--	1
Chlorobenzene	ND		ug/kg	0.34	--	1
Trichlorofluoromethane	ND		ug/kg	2.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.68	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.34	--	1
Bromodichloromethane	ND		ug/kg	0.34	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.68	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.34	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.34	--	1
1,1-Dichloropropene	ND		ug/kg	0.34	--	1
Bromoform	ND		ug/kg	2.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Benzene	ND		ug/kg	0.34	--	1
Toluene	ND		ug/kg	0.68	--	1
Ethylbenzene	ND		ug/kg	0.68	--	1
Chloromethane	ND		ug/kg	2.7	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.68	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.68	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-41 Date Collected: 10/20/19 10:45

Client ID: GLX-TPW-604-VOC-1 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.34	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.68	--	1
Xylenes, Total	ND		ug/kg	0.68	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.68	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.68	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.68	--	1
Dichlorodifluoromethane	ND		ug/kg	6.8	--	1
Acetone	49		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	6.8	--	1
Methyl ethyl ketone	ND		ug/kg	6.8	--	1
Methyl isobutyl ketone	ND		ug/kg	6.8	--	1
2-Hexanone	ND		ug/kg	6.8	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.68	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.68	--	1
sec-Butylbenzene	ND		ug/kg	0.68	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.7	--	1
Isopropylbenzene	ND		ug/kg	0.68	--	1
p-Isopropyltoluene	ND		ug/kg	0.68	--	1
Naphthalene	ND		ug/kg	2.7	--	1
n-Propylbenzene	ND		ug/kg	0.68	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-41 Date Collected: 10/20/19 10:45

Client ID: GLX-TPW-604-VOC-1 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	54	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	98		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-42
Client ID: GLX-TPW-604-VOC-3
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 10:55
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 16:22
Analyst: MKS
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.5	--	1
1,1-Dichloroethane	ND		ug/kg	0.89	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.89	--	1
1,2-Dichloropropane	ND		ug/kg	0.89	--	1
Dibromochloromethane	ND		ug/kg	0.89	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.89	--	1
Tetrachloroethene	ND		ug/kg	0.45	--	1
Chlorobenzene	ND		ug/kg	0.45	--	1
Trichlorofluoromethane	ND		ug/kg	3.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.89	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.45	--	1
Bromodichloromethane	ND		ug/kg	0.45	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.89	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.45	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.45	--	1
1,1-Dichloropropene	ND		ug/kg	0.45	--	1
Bromoform	ND		ug/kg	3.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.45	--	1
Benzene	0.61		ug/kg	0.45	--	1
Toluene	ND		ug/kg	0.89	--	1
Ethylbenzene	ND		ug/kg	0.89	--	1
Chloromethane	ND		ug/kg	3.6	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.89	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.89	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-42 Date Collected: 10/20/19 10:55

Client ID: GLX-TPW-604-VOC-3 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.45	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.89	--	1
Xylenes, Total	ND		ug/kg	0.89	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.89	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.89	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.89	--	1
Dichlorodifluoromethane	ND		ug/kg	8.9	--	1
Acetone	41		ug/kg	22	--	1
Carbon disulfide	ND		ug/kg	8.9	--	1
Methyl ethyl ketone	ND		ug/kg	8.9	--	1
Methyl isobutyl ketone	ND		ug/kg	8.9	--	1
2-Hexanone	ND		ug/kg	8.9	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.89	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.45	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.89	--	1
sec-Butylbenzene	ND		ug/kg	0.89	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	--	1
Hexachlorobutadiene	ND		ug/kg	3.6	--	1
Isopropylbenzene	ND		ug/kg	0.89	--	1
p-Isopropyltoluene	ND		ug/kg	0.89	--	1
Naphthalene	ND		ug/kg	3.6	--	1
n-Propylbenzene	ND		ug/kg	0.89	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-42 Date Collected: 10/20/19 10:55

Client ID: GLX-TPW-604-VOC-3 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	72	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	104		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-43
Client ID: GLX-TPW-605-VOC-1
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 11:00
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 16:49
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.1	--	1
1,1-Dichloroethane	ND		ug/kg	0.81	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.81	--	1
1,2-Dichloropropane	ND		ug/kg	0.81	--	1
Dibromochloromethane	ND		ug/kg	0.81	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.81	--	1
Tetrachloroethene	ND		ug/kg	0.41	--	1
Chlorobenzene	ND		ug/kg	0.41	--	1
Trichlorofluoromethane	ND		ug/kg	3.2	--	1
1,2-Dichloroethane	ND		ug/kg	0.81	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	--	1
Bromodichloromethane	ND		ug/kg	0.41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.81	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	--	1
1,1-Dichloropropene	ND		ug/kg	0.41	--	1
Bromoform	ND		ug/kg	3.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Benzene	ND		ug/kg	0.41	--	1
Toluene	ND		ug/kg	0.81	--	1
Ethylbenzene	ND		ug/kg	0.81	--	1
Chloromethane	ND		ug/kg	3.2	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.81	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.81	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-43 Date Collected: 10/20/19 11:00

Client ID: GLX-TPW-605-VOC-1 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.41	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.81	--	1
Xylenes, Total	ND		ug/kg	0.81	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.81	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.81	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.81	--	1
Dichlorodifluoromethane	ND		ug/kg	8.1	--	1
Acetone	34		ug/kg	20	--	1
Carbon disulfide	ND		ug/kg	8.1	--	1
Methyl ethyl ketone	ND		ug/kg	8.1	--	1
Methyl isobutyl ketone	ND		ug/kg	8.1	--	1
2-Hexanone	ND		ug/kg	8.1	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.2	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.81	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.81	--	1
sec-Butylbenzene	ND		ug/kg	0.81	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.4	--	1
Hexachlorobutadiene	ND		ug/kg	3.2	--	1
Isopropylbenzene	ND		ug/kg	0.81	--	1
p-Isopropyltoluene	ND		ug/kg	0.81	--	1
Naphthalene	ND		ug/kg	3.2	--	1
n-Propylbenzene	ND		ug/kg	0.81	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-43 Date Collected: 10/20/19 11:00

Client ID: GLX-TPW-605-VOC-1 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	65	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	100		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-44 Date Collected: 10/20/19 11:00
Client ID: GLX-TPW-605-VOC-3 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 10:54
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.94	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.94	--	1
1,2-Dichloropropane	ND		ug/kg	0.94	--	1
Dibromochloromethane	ND		ug/kg	0.94	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.94	--	1
Tetrachloroethene	ND		ug/kg	0.47	--	1
Chlorobenzene	ND		ug/kg	0.47	--	1
Trichlorofluoromethane	ND		ug/kg	3.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.94	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.47	--	1
Bromodichloromethane	ND		ug/kg	0.47	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.94	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.47	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.47	--	1
1,1-Dichloropropene	ND		ug/kg	0.47	--	1
Bromoform	ND		ug/kg	3.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.47	--	1
Benzene	ND		ug/kg	0.47	--	1
Toluene	ND		ug/kg	0.94	--	1
Ethylbenzene	ND		ug/kg	0.94	--	1
Chloromethane	ND		ug/kg	3.8	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.94	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.94	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-44 Date Collected: 10/20/19 11:00

Client ID: GLX-TPW-605-VOC-3 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.47	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.94	--	1
Xylenes, Total	ND		ug/kg	0.94	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.94	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.94	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.94	--	1
Dichlorodifluoromethane	ND		ug/kg	9.4	--	1
Acetone	92		ug/kg	24	--	1
Carbon disulfide	ND		ug/kg	9.4	--	1
Methyl ethyl ketone	ND		ug/kg	9.4	--	1
Methyl isobutyl ketone	ND		ug/kg	9.4	--	1
2-Hexanone	ND		ug/kg	9.4	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.94	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.47	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.94	--	1
sec-Butylbenzene	ND		ug/kg	0.94	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.8	--	1
Hexachlorobutadiene	ND		ug/kg	3.8	--	1
Isopropylbenzene	ND		ug/kg	0.94	--	1
p-Isopropyltoluene	ND		ug/kg	0.94	--	1
Naphthalene	ND		ug/kg	3.8	--	1
n-Propylbenzene	ND		ug/kg	0.94	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-44 Date Collected: 10/20/19 11:00

Client ID: GLX-TPW-605-VOC-3 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	75	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	97		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-45 Date Collected: 10/20/19 11:11
Client ID: DUPA Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 11:19
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	ND		ug/kg	0.50	--	1
Chlorobenzene	ND		ug/kg	0.50	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	--	1
Bromodichloromethane	ND		ug/kg	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--	1
1,1-Dichloropropene	ND		ug/kg	0.50	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Benzene	ND		ug/kg	0.50	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.0	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-45 Date Collected: 10/20/19 11:11

Client ID: DUPA Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.50	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	61		ug/kg	25	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-45 Date Collected: 10/20/19 11:11

Client ID: DUPA Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	96		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-46 Date Collected: 10/20/19 11:20
Client ID: GLX-TPW-605-VOC-8 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 11:44
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.72	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.72	--	1
1,2-Dichloropropane	ND		ug/kg	0.72	--	1
Dibromochloromethane	ND		ug/kg	0.72	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.72	--	1
Tetrachloroethene	ND		ug/kg	0.36	--	1
Chlorobenzene	ND		ug/kg	0.36	--	1
Trichlorofluoromethane	ND		ug/kg	2.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.72	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.36	--	1
Bromodichloromethane	ND		ug/kg	0.36	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.72	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.36	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.36	--	1
1,1-Dichloropropene	ND		ug/kg	0.36	--	1
Bromoform	ND		ug/kg	2.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Benzene	ND		ug/kg	0.36	--	1
Toluene	ND		ug/kg	0.72	--	1
Ethylbenzene	ND		ug/kg	0.72	--	1
Chloromethane	ND		ug/kg	2.9	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.72	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.72	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-46 Date Collected: 10/20/19 11:20

Client ID: GLX-TPW-605-VOC-8 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.36	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.72	--	1
Xylenes, Total	ND		ug/kg	0.72	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.72	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.72	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.72	--	1
Dichlorodifluoromethane	ND		ug/kg	7.2	--	1
Acetone	ND		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	7.2	--	1
Methyl ethyl ketone	ND		ug/kg	7.2	--	1
Methyl isobutyl ketone	ND		ug/kg	7.2	--	1
2-Hexanone	ND		ug/kg	7.2	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.9	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.72	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.36	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.72	--	1
sec-Butylbenzene	ND		ug/kg	0.72	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	2.9	--	1
Isopropylbenzene	ND		ug/kg	0.72	--	1
p-Isopropyltoluene	ND		ug/kg	0.72	--	1
Naphthalene	ND		ug/kg	2.9	--	1
n-Propylbenzene	ND		ug/kg	0.72	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-46 Date Collected: 10/20/19 11:20

Client ID: GLX-TPW-605-VOC-8 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	57	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	95		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-47
Client ID: GLX-TPW-607-VOC-.6
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 11:40
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 12:10
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.75	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.75	--	1
1,2-Dichloropropane	ND		ug/kg	0.75	--	1
Dibromochloromethane	ND		ug/kg	0.75	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.75	--	1
Tetrachloroethene	ND		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.75	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.75	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	ND		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.75	--	1
Ethylbenzene	ND		ug/kg	0.75	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.75	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.75	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-47 Date Collected: 10/20/19 11:40
Client ID: GLX-TPW-607-VOC-.6 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.75	--	1
Xylenes, Total	ND		ug/kg	0.75	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.75	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.75	--	1
Dichlorodifluoromethane	ND		ug/kg	7.5	--	1
Acetone	66		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.5	--	1
Methyl ethyl ketone	ND		ug/kg	7.5	--	1
Methyl isobutyl ketone	ND		ug/kg	7.5	--	1
2-Hexanone	ND		ug/kg	7.5	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.75	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.75	--	1
sec-Butylbenzene	ND		ug/kg	0.75	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.75	--	1
p-Isopropyltoluene	ND		ug/kg	0.75	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.75	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-47 Date Collected: 10/20/19 11:40

Client ID: GLX-TPW-607-VOC-.6 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	60	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	95		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-48
Client ID: GLX-TPW-607-VOC-4.6
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 11:50
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 12:35
Analyst: MKS
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.9	--	1
1,1-Dichloroethane	ND		ug/kg	0.78	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.78	--	1
1,2-Dichloropropane	ND		ug/kg	0.78	--	1
Dibromochloromethane	ND		ug/kg	0.78	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.78	--	1
Tetrachloroethene	ND		ug/kg	0.39	--	1
Chlorobenzene	ND		ug/kg	0.39	--	1
Trichlorofluoromethane	ND		ug/kg	3.1	--	1
1,2-Dichloroethane	ND		ug/kg	0.78	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.39	--	1
Bromodichloromethane	ND		ug/kg	0.39	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.78	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.39	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.39	--	1
1,1-Dichloropropene	ND		ug/kg	0.39	--	1
Bromoform	ND		ug/kg	3.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.39	--	1
Benzene	ND		ug/kg	0.39	--	1
Toluene	ND		ug/kg	0.78	--	1
Ethylbenzene	ND		ug/kg	0.78	--	1
Chloromethane	ND		ug/kg	3.1	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.78	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.78	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-48 Date Collected: 10/20/19 11:50

Client ID: GLX-TPW-607-VOC-4.6 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.39	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.78	--	1
Xylenes, Total	ND		ug/kg	0.78	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.78	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.78	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.78	--	1
Dichlorodifluoromethane	ND		ug/kg	7.8	--	1
Acetone	30		ug/kg	20	--	1
Carbon disulfide	ND		ug/kg	7.8	--	1
Methyl ethyl ketone	ND		ug/kg	7.8	--	1
Methyl isobutyl ketone	ND		ug/kg	7.8	--	1
2-Hexanone	ND		ug/kg	7.8	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.1	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.78	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.39	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.78	--	1
sec-Butylbenzene	ND		ug/kg	0.78	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.4	--	1
Hexachlorobutadiene	ND		ug/kg	3.1	--	1
Isopropylbenzene	ND		ug/kg	0.78	--	1
p-Isopropyltoluene	ND		ug/kg	0.78	--	1
Naphthalene	ND		ug/kg	3.1	--	1
n-Propylbenzene	ND		ug/kg	0.78	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-48 Date Collected: 10/20/19 11:50

Client ID: GLX-TPW-607-VOC-4.6 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	63	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	97		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-49 Date Collected: 10/20/19 12:15
Client ID: GLX-TPW-611-VOC-1.5 Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 13:00
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.9	--	1
1,1-Dichloroethane	ND		ug/kg	0.98	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	0.98	--	1
1,2-Dichloropropane	ND		ug/kg	0.98	--	1
Dibromochloromethane	ND		ug/kg	0.98	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.98	--	1
Tetrachloroethene	ND		ug/kg	0.49	--	1
Chlorobenzene	ND		ug/kg	0.49	--	1
Trichlorofluoromethane	ND		ug/kg	3.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.98	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.49	--	1
Bromodichloromethane	ND		ug/kg	0.49	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.98	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.49	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.49	--	1
1,1-Dichloropropene	ND		ug/kg	0.49	--	1
Bromoform	ND		ug/kg	3.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.49	--	1
Benzene	ND		ug/kg	0.49	--	1
Toluene	ND		ug/kg	0.98	--	1
Ethylbenzene	ND		ug/kg	0.98	--	1
Chloromethane	ND		ug/kg	3.9	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	0.98	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	0.98	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-49 Date Collected: 10/20/19 12:15

Client ID: GLX-TPW-611-VOC-1.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.49	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	0.98	--	1
Xylenes, Total	ND		ug/kg	0.98	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.98	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.98	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	0.98	--	1
Dichlorodifluoromethane	ND		ug/kg	9.8	--	1
Acetone	91		ug/kg	24	--	1
Carbon disulfide	ND		ug/kg	9.8	--	1
Methyl ethyl ketone	ND		ug/kg	9.8	--	1
Methyl isobutyl ketone	ND		ug/kg	9.8	--	1
2-Hexanone	ND		ug/kg	9.8	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	3.9		ug/kg	3.9	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	0.98	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.49	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	0.98	--	1
sec-Butylbenzene	ND		ug/kg	0.98	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	--	1
Hexachlorobutadiene	ND		ug/kg	3.9	--	1
Isopropylbenzene	ND		ug/kg	0.98	--	1
p-Isopropyltoluene	ND		ug/kg	0.98	--	1
Naphthalene	ND		ug/kg	3.9	--	1
n-Propylbenzene	ND		ug/kg	0.98	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-49 Date Collected: 10/20/19 12:15

Client ID: GLX-TPW-611-VOC-1.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	78	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	98		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-50
Client ID: GLX-TPW-611-VOC-4
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 12:25
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 13:26
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.74	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.74	--	1
1,2-Dichloropropane	ND		ug/kg	0.74	--	1
Dibromochloromethane	ND		ug/kg	0.74	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.74	--	1
Tetrachloroethene	ND		ug/kg	0.37	--	1
Chlorobenzene	ND		ug/kg	0.37	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.74	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.37	--	1
Bromodichloromethane	ND		ug/kg	0.37	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.74	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.37	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.37	--	1
1,1-Dichloropropene	ND		ug/kg	0.37	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Benzene	ND		ug/kg	0.37	--	1
Toluene	ND		ug/kg	0.74	--	1
Ethylbenzene	ND		ug/kg	0.74	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.74	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.74	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-50 Date Collected: 10/20/19 12:25

Client ID: GLX-TPW-611-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.37	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.74	--	1
Xylenes, Total	ND		ug/kg	0.74	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.74	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.74	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.74	--	1
Dichlorodifluoromethane	ND		ug/kg	7.4	--	1
Acetone	28		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.4	--	1
Methyl ethyl ketone	ND		ug/kg	7.4	--	1
Methyl isobutyl ketone	ND		ug/kg	7.4	--	1
2-Hexanone	ND		ug/kg	7.4	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.74	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.74	--	1
sec-Butylbenzene	ND		ug/kg	0.74	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.74	--	1
p-Isopropyltoluene	ND		ug/kg	0.74	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.74	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-50 Date Collected: 10/20/19 12:25

Client ID: GLX-TPW-611-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	60	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	95		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-51
Client ID: GLX-TPW-612-VOC-1.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 12:30
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 13:51
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.2	--	1
1,1-Dichloroethane	ND		ug/kg	0.84	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.84	--	1
1,2-Dichloropropane	ND		ug/kg	0.84	--	1
Dibromochloromethane	ND		ug/kg	0.84	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.84	--	1
Tetrachloroethene	ND		ug/kg	0.42	--	1
Chlorobenzene	ND		ug/kg	0.42	--	1
Trichlorofluoromethane	ND		ug/kg	3.4	--	1
1,2-Dichloroethane	ND		ug/kg	0.84	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.42	--	1
Bromodichloromethane	ND		ug/kg	0.42	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.84	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.42	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.42	--	1
1,1-Dichloropropene	ND		ug/kg	0.42	--	1
Bromoform	ND		ug/kg	3.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Benzene	ND		ug/kg	0.42	--	1
Toluene	ND		ug/kg	0.84	--	1
Ethylbenzene	ND		ug/kg	0.84	--	1
Chloromethane	ND		ug/kg	3.4	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	0.84	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.84	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-51 Date Collected: 10/20/19 12:30

Client ID: GLX-TPW-612-VOC-1.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.42	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	--	1
Methyl tert butyl ether	ND		ug/kg	1.7	--	1
p/m-Xylene	ND		ug/kg	1.7	--	1
o-Xylene	ND		ug/kg	0.84	--	1
Xylenes, Total	ND		ug/kg	0.84	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.84	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.84	--	1
Dibromomethane	ND		ug/kg	1.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	--	1
Styrene	ND		ug/kg	0.84	--	1
Dichlorodifluoromethane	ND		ug/kg	8.4	--	1
Acetone	80		ug/kg	21	--	1
Carbon disulfide	ND		ug/kg	8.4	--	1
Methyl ethyl ketone	ND		ug/kg	8.4	--	1
Methyl isobutyl ketone	ND		ug/kg	8.4	--	1
2-Hexanone	ND		ug/kg	8.4	--	1
Bromochloromethane	ND		ug/kg	1.7	--	1
Tetrahydrofuran	ND		ug/kg	3.4	--	1
2,2-Dichloropropane	ND		ug/kg	1.7	--	1
1,2-Dibromoethane	ND		ug/kg	0.84	--	1
1,3-Dichloropropane	ND		ug/kg	1.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Bromobenzene	ND		ug/kg	1.7	--	1
n-Butylbenzene	ND		ug/kg	0.84	--	1
sec-Butylbenzene	ND		ug/kg	0.84	--	1
tert-Butylbenzene	ND		ug/kg	1.7	--	1
o-Chlorotoluene	ND		ug/kg	1.7	--	1
p-Chlorotoluene	ND		ug/kg	1.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.4	--	1
Isopropylbenzene	ND		ug/kg	0.84	--	1
p-Isopropyltoluene	ND		ug/kg	0.84	--	1
Naphthalene	ND		ug/kg	3.4	--	1
n-Propylbenzene	ND		ug/kg	0.84	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-51 Date Collected: 10/20/19 12:30

Client ID: GLX-TPW-612-VOC-1.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	--	1
Diethyl ether	ND		ug/kg	1.7	--	1
Diisopropyl Ether	ND		ug/kg	1.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.7	--	1
1,4-Dioxane	ND		ug/kg	67	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	97		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-52
Client ID: GLX-TPW-612-VOC-4
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 12:35
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 14:17
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.76	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.76	--	1
1,2-Dichloropropane	ND		ug/kg	0.76	--	1
Dibromochloromethane	ND		ug/kg	0.76	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	--	1
Tetrachloroethene	ND		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.76	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	ND		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.76	--	1
Ethylbenzene	ND		ug/kg	0.76	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.76	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.76	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-52 Date Collected: 10/20/19 12:35

Client ID: GLX-TPW-612-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.76	--	1
Xylenes, Total	ND		ug/kg	0.76	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.76	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.76	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.76	--	1
Dichlorodifluoromethane	ND		ug/kg	7.6	--	1
Acetone	59		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.6	--	1
Methyl ethyl ketone	ND		ug/kg	7.6	--	1
Methyl isobutyl ketone	ND		ug/kg	7.6	--	1
2-Hexanone	ND		ug/kg	7.6	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.76	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.76	--	1
sec-Butylbenzene	ND		ug/kg	0.76	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.76	--	1
p-Isopropyltoluene	ND		ug/kg	0.76	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.76	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-52 Date Collected: 10/20/19 12:35

Client ID: GLX-TPW-612-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	60	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	94		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-53
Client ID: GLX-TPW-613-VOC-1.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 12:50
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 14:42
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.68	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.68	--	1
1,2-Dichloropropane	ND		ug/kg	0.68	--	1
Dibromochloromethane	ND		ug/kg	0.68	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.68	--	1
Tetrachloroethene	ND		ug/kg	0.34	--	1
Chlorobenzene	ND		ug/kg	0.34	--	1
Trichlorofluoromethane	ND		ug/kg	2.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.68	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.34	--	1
Bromodichloromethane	ND		ug/kg	0.34	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.68	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.34	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.34	--	1
1,1-Dichloropropene	ND		ug/kg	0.34	--	1
Bromoform	ND		ug/kg	2.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Benzene	ND		ug/kg	0.34	--	1
Toluene	ND		ug/kg	0.68	--	1
Ethylbenzene	ND		ug/kg	0.68	--	1
Chloromethane	ND		ug/kg	2.7	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.68	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.68	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-53 Date Collected: 10/20/19 12:50

Client ID: GLX-TPW-613-VOC-1.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.34	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.68	--	1
Xylenes, Total	ND		ug/kg	0.68	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.68	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.68	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.68	--	1
Dichlorodifluoromethane	ND		ug/kg	6.8	--	1
Acetone	28		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	6.8	--	1
Methyl ethyl ketone	ND		ug/kg	6.8	--	1
Methyl isobutyl ketone	ND		ug/kg	6.8	--	1
2-Hexanone	ND		ug/kg	6.8	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.68	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.68	--	1
sec-Butylbenzene	ND		ug/kg	0.68	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.0	--	1
Hexachlorobutadiene	ND		ug/kg	2.7	--	1
Isopropylbenzene	ND		ug/kg	0.68	--	1
p-Isopropyltoluene	ND		ug/kg	0.68	--	1
Naphthalene	ND		ug/kg	2.7	--	1
n-Propylbenzene	ND		ug/kg	0.68	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-53 Date Collected: 10/20/19 12:50

Client ID: GLX-TPW-613-VOC-1.5 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	54	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	96		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-54
Client ID: GLX-TPW-613-VOC-4
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 13:00
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 15:07
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.9	--	1
1,1-Dichloroethane	ND		ug/kg	0.98	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	0.98	--	1
1,2-Dichloropropane	ND		ug/kg	0.98	--	1
Dibromochloromethane	ND		ug/kg	0.98	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.98	--	1
Tetrachloroethene	ND		ug/kg	0.49	--	1
Chlorobenzene	ND		ug/kg	0.49	--	1
Trichlorofluoromethane	ND		ug/kg	3.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.98	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.49	--	1
Bromodichloromethane	ND		ug/kg	0.49	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.98	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.49	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.49	--	1
1,1-Dichloropropene	ND		ug/kg	0.49	--	1
Bromoform	ND		ug/kg	3.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.49	--	1
Benzene	ND		ug/kg	0.49	--	1
Toluene	ND		ug/kg	0.98	--	1
Ethylbenzene	ND		ug/kg	0.98	--	1
Chloromethane	ND		ug/kg	3.9	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	0.98	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	0.98	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-54 Date Collected: 10/20/19 13:00

Client ID: GLX-TPW-613-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.49	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	0.98	--	1
Xylenes, Total	ND		ug/kg	0.98	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.98	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.98	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	0.98	--	1
Dichlorodifluoromethane	ND		ug/kg	9.8	--	1
Acetone	32		ug/kg	24	--	1
Carbon disulfide	ND		ug/kg	9.8	--	1
Methyl ethyl ketone	ND		ug/kg	9.8	--	1
Methyl isobutyl ketone	ND		ug/kg	9.8	--	1
2-Hexanone	ND		ug/kg	9.8	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	3.9	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	0.98	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.49	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	0.98	--	1
sec-Butylbenzene	ND		ug/kg	0.98	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	--	1
Hexachlorobutadiene	ND		ug/kg	3.9	--	1
Isopropylbenzene	ND		ug/kg	0.98	--	1
p-Isopropyltoluene	ND		ug/kg	0.98	--	1
Naphthalene	ND		ug/kg	3.9	--	1
n-Propylbenzene	ND		ug/kg	0.98	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-54 Date Collected: 10/20/19 13:00

Client ID: GLX-TPW-613-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	78	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	95		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-55
Client ID: GLX-TPW-614-VOC-1
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 13:05
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 15:33
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.3	--	1
1,1-Dichloroethane	ND		ug/kg	0.85	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.85	--	1
1,2-Dichloropropane	ND		ug/kg	0.85	--	1
Dibromochloromethane	ND		ug/kg	0.85	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.85	--	1
Tetrachloroethene	ND		ug/kg	0.43	--	1
Chlorobenzene	ND		ug/kg	0.43	--	1
Trichlorofluoromethane	ND		ug/kg	3.4	--	1
1,2-Dichloroethane	ND		ug/kg	0.85	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.43	--	1
Bromodichloromethane	ND		ug/kg	0.43	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.85	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.43	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.43	--	1
1,1-Dichloropropene	ND		ug/kg	0.43	--	1
Bromoform	ND		ug/kg	3.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.43	--	1
Benzene	ND		ug/kg	0.43	--	1
Toluene	ND		ug/kg	0.85	--	1
Ethylbenzene	ND		ug/kg	0.85	--	1
Chloromethane	ND		ug/kg	3.4	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	0.85	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.85	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-55 Date Collected: 10/20/19 13:05

Client ID: GLX-TPW-614-VOC-1 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.43	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	--	1
Methyl tert butyl ether	ND		ug/kg	1.7	--	1
p/m-Xylene	ND		ug/kg	1.7	--	1
o-Xylene	ND		ug/kg	0.85	--	1
Xylenes, Total	ND		ug/kg	0.85	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.85	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.85	--	1
Dibromomethane	ND		ug/kg	1.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	--	1
Styrene	ND		ug/kg	0.85	--	1
Dichlorodifluoromethane	ND		ug/kg	8.5	--	1
Acetone	66		ug/kg	21	--	1
Carbon disulfide	ND		ug/kg	8.5	--	1
Methyl ethyl ketone	ND		ug/kg	8.5	--	1
Methyl isobutyl ketone	ND		ug/kg	8.5	--	1
2-Hexanone	ND		ug/kg	8.5	--	1
Bromochloromethane	ND		ug/kg	1.7	--	1
Tetrahydrofuran	ND		ug/kg	3.4	--	1
2,2-Dichloropropane	ND		ug/kg	1.7	--	1
1,2-Dibromoethane	ND		ug/kg	0.85	--	1
1,3-Dichloropropane	ND		ug/kg	1.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.43	--	1
Bromobenzene	ND		ug/kg	1.7	--	1
n-Butylbenzene	ND		ug/kg	0.85	--	1
sec-Butylbenzene	ND		ug/kg	0.85	--	1
tert-Butylbenzene	ND		ug/kg	1.7	--	1
o-Chlorotoluene	ND		ug/kg	1.7	--	1
p-Chlorotoluene	ND		ug/kg	1.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.6	--	1
Hexachlorobutadiene	ND		ug/kg	3.4	--	1
Isopropylbenzene	ND		ug/kg	0.85	--	1
p-Isopropyltoluene	ND		ug/kg	0.85	--	1
Naphthalene	ND		ug/kg	3.4	--	1
n-Propylbenzene	ND		ug/kg	0.85	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-55 Date Collected: 10/20/19 13:05

Client ID: GLX-TPW-614-VOC-1 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	--	1
Diethyl ether	ND		ug/kg	1.7	--	1
Diisopropyl Ether	ND		ug/kg	1.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.7	--	1
1,4-Dioxane	ND		ug/kg	68	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	97		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-56
Client ID: GLX-TPW-614-VOC-4
Sample Location: WASHINGTON ST, SOMERVILLE, MA

Date Collected: 10/20/19 13:10
Date Received: 10/21/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 15:58
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.5	--	1
1,1-Dichloroethane	ND		ug/kg	0.70	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.70	--	1
1,2-Dichloropropane	ND		ug/kg	0.70	--	1
Dibromochloromethane	ND		ug/kg	0.70	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.70	--	1
Tetrachloroethene	ND		ug/kg	0.35	--	1
Chlorobenzene	ND		ug/kg	0.35	--	1
Trichlorofluoromethane	ND		ug/kg	2.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.70	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.35	--	1
Bromodichloromethane	ND		ug/kg	0.35	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.70	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.35	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.35	--	1
1,1-Dichloropropene	ND		ug/kg	0.35	--	1
Bromoform	ND		ug/kg	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.35	--	1
Benzene	ND		ug/kg	0.35	--	1
Toluene	ND		ug/kg	0.70	--	1
Ethylbenzene	ND		ug/kg	0.70	--	1
Chloromethane	ND		ug/kg	2.8	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.70	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.70	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-56 Date Collected: 10/20/19 13:10

Client ID: GLX-TPW-614-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.35	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.70	--	1
Xylenes, Total	ND		ug/kg	0.70	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.70	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.70	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.70	--	1
Dichlorodifluoromethane	ND		ug/kg	7.0	--	1
Acetone	ND		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	7.0	--	1
Methyl ethyl ketone	ND		ug/kg	7.0	--	1
Methyl isobutyl ketone	ND		ug/kg	7.0	--	1
2-Hexanone	ND		ug/kg	7.0	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.70	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.35	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.70	--	1
sec-Butylbenzene	ND		ug/kg	0.70	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.8	--	1
Isopropylbenzene	ND		ug/kg	0.70	--	1
p-Isopropyltoluene	ND		ug/kg	0.70	--	1
Naphthalene	ND		ug/kg	2.8	--	1
n-Propylbenzene	ND		ug/kg	0.70	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-56 Date Collected: 10/20/19 13:10

Client ID: GLX-TPW-614-VOC-4 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	56	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	96		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-57 Date Collected: 10/20/19 13:15
Client ID: DUPB Date Received: 10/21/19
Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 10/22/19 16:24
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.9	--	1
1,1-Dichloroethane	ND		ug/kg	0.78	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.78	--	1
1,2-Dichloropropane	ND		ug/kg	0.78	--	1
Dibromochloromethane	ND		ug/kg	0.78	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.78	--	1
Tetrachloroethene	ND		ug/kg	0.39	--	1
Chlorobenzene	ND		ug/kg	0.39	--	1
Trichlorofluoromethane	ND		ug/kg	3.1	--	1
1,2-Dichloroethane	ND		ug/kg	0.78	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.39	--	1
Bromodichloromethane	ND		ug/kg	0.39	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.78	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.39	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.39	--	1
1,1-Dichloropropene	ND		ug/kg	0.39	--	1
Bromoform	ND		ug/kg	3.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.39	--	1
Benzene	ND		ug/kg	0.39	--	1
Toluene	ND		ug/kg	0.78	--	1
Ethylbenzene	ND		ug/kg	0.78	--	1
Chloromethane	ND		ug/kg	3.1	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.78	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.78	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-57 Date Collected: 10/20/19 13:15

Client ID: DUPB Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.39	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.78	--	1
Xylenes, Total	ND		ug/kg	0.78	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.78	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.78	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.78	--	1
Dichlorodifluoromethane	ND		ug/kg	7.8	--	1
Acetone	52		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.8	--	1
Methyl ethyl ketone	ND		ug/kg	7.8	--	1
Methyl isobutyl ketone	ND		ug/kg	7.8	--	1
2-Hexanone	ND		ug/kg	7.8	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.1	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.78	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.39	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.78	--	1
sec-Butylbenzene	ND		ug/kg	0.78	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.1	--	1
Isopropylbenzene	ND		ug/kg	0.78	--	1
p-Isopropyltoluene	ND		ug/kg	0.78	--	1
Naphthalene	ND		ug/kg	3.1	--	1
n-Propylbenzene	ND		ug/kg	0.78	--	1

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-57 Date Collected: 10/20/19 13:15

Client ID: DUPB Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	62	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	95		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/22/19 09:38
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 44-57 Batch: WG1299213-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/22/19 09:38
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 44-57 Batch: WG1299213-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/22/19 09:38
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 44-57 Batch: WG1299213-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	92		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/22/19 09:51
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 30-35,38-40,42-43 Batch: WG1299283-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/22/19 09:51
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 30-35,38-40,42-43 Batch: WG1299283-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/22/19 09:51
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 30-35,38-40,42-43 Batch: WG1299283-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/22/19 09:51
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 29 Batch: WG1299503-5					
Methylene chloride	ND		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	25	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/22/19 09:51
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 29 Batch: WG1299503-5					
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/22/19 09:51
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 29 Batch: WG1299503-5					
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
Diethyl ether	ND		ug/kg	100	--
Diisopropyl Ether	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	4000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/23/19 09:18
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 28,41 Batch: WG1299733-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/23/19 09:18
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 28,41 Batch: WG1299733-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/23/19 09:18
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 28,41 Batch: WG1299733-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	90		70-130

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

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Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/23/19 09:18
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 36-37 Batch: WG1299735-5					
Methylene chloride	ND		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	25	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/23/19 09:18
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 36-37 Batch: WG1299735-5					
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 10/23/19 09:18
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 36-37 Batch: WG1299735-5					
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
Diethyl ether	ND		ug/kg	100	--
Diisopropyl Ether	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	4000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	90		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 44-57 Batch: WG1299213-3 WG1299213-4								
Methylene chloride	95		96		70-130	1		20
1,1-Dichloroethane	102		103		70-130	1		20
Chloroform	91		91		70-130	0		20
Carbon tetrachloride	80		81		70-130	1		20
1,2-Dichloropropane	107		107		70-130	0		20
Dibromochloromethane	88		87		70-130	1		20
1,1,2-Trichloroethane	99		98		70-130	1		20
Tetrachloroethene	83		84		70-130	1		20
Chlorobenzene	90		91		70-130	1		20
Trichlorofluoromethane	77		77		70-130	0		20
1,2-Dichloroethane	94		94		70-130	0		20
1,1,1-Trichloroethane	88		89		70-130	1		20
Bromodichloromethane	93		93		70-130	0		20
trans-1,3-Dichloropropene	97		98		70-130	1		20
cis-1,3-Dichloropropene	100		101		70-130	1		20
1,1-Dichloropropene	95		97		70-130	2		20
Bromoform	83		83		70-130	0		20
1,1,2,2-Tetrachloroethane	101		100		70-130	1		20
Benzene	96		97		70-130	1		20
Toluene	94		96		70-130	2		20
Ethylbenzene	92		94		70-130	2		20
Chloromethane	91		90		70-130	1		20
Bromomethane	82		80		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 44-57		Batch: WG1299213-3 WG1299213-4					
Vinyl chloride	90		92		70-130	2		20
Chloroethane	89		89		70-130	0		20
1,1-Dichloroethene	87		88		70-130	1		20
trans-1,2-Dichloroethene	92		94		70-130	2		20
Trichloroethene	92		93		70-130	1		20
1,2-Dichlorobenzene	89		92		70-130	3		20
1,3-Dichlorobenzene	90		92		70-130	2		20
1,4-Dichlorobenzene	88		90		70-130	2		20
Methyl tert butyl ether	97		97		70-130	0		20
p/m-Xylene	92		94		70-130	2		20
o-Xylene	91		93		70-130	2		20
cis-1,2-Dichloroethene	95		96		70-130	1		20
Dibromomethane	93		92		70-130	1		20
1,2,3-Trichloropropane	99		99		70-130	0		20
Styrene	92		94		70-130	2		20
Dichlorodifluoromethane	**58**	Q	**59**	Q	70-130	2		20
Acetone	111		99		70-130	11		20
Carbon disulfide	89		91		70-130	2		20
Methyl ethyl ketone	102		95		70-130	7		20
Methyl isobutyl ketone	104		103		70-130	1		20
2-Hexanone	94		94		70-130	0		20
Bromochloromethane	94		92		70-130	2		20
Tetrahydrofuran	114		122		70-130	7		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
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Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 44-57		Batch: WG1299213-3 WG1299213-4					
2,2-Dichloropropane	87		88		70-130	1		20
1,2-Dibromoethane	94		93		70-130	1		20
1,3-Dichloropropane	102		102		70-130	0		20
1,1,1,2-Tetrachloroethane	84		85		70-130	1		20
Bromobenzene	88		90		70-130	2		20
n-Butylbenzene	96		99		70-130	3		20
sec-Butylbenzene	93		95		70-130	2		20
tert-Butylbenzene	89		92		70-130	3		20
o-Chlorotoluene	95		98		70-130	3		20
p-Chlorotoluene	94		96		70-130	2		20
1,2-Dibromo-3-chloropropane	81		81		70-130	0		20
Hexachlorobutadiene	76		79		70-130	4		20
Isopropylbenzene	92		95		70-130	3		20
p-Isopropyltoluene	91		94		70-130	3		20
Naphthalene	89		89		70-130	0		20
n-Propylbenzene	96		100		70-130	4		20
1,2,3-Trichlorobenzene	84		86		70-130	2		20
1,2,4-Trichlorobenzene	86		88		70-130	2		20
1,3,5-Trimethylbenzene	91		94		70-130	3		20
1,2,4-Trimethylbenzene	93		96		70-130	3		20
Diethyl ether	98		99		70-130	1		20
Diisopropyl Ether	118		120		70-130	2		20
Ethyl-Tert-Butyl-Ether	108		108		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1949294

Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 44-57		Batch: WG1299213-3 WG1299213-4					
Tertiary-Amyl Methyl Ether	100		100		70-130	0		20
1,4-Dioxane	99		97		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		92		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	93		94		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 30-35,38-40,42-43		Batch: WG1299283-3 WG1299283-4					
Methylene chloride	92		92		70-130	0		20
1,1-Dichloroethane	86		85		70-130	1		20
Chloroform	84		84		70-130	0		20
Carbon tetrachloride	83		83		70-130	0		20
1,2-Dichloropropane	87		87		70-130	0		20
Dibromochloromethane	88		89		70-130	1		20
1,1,2-Trichloroethane	89		90		70-130	1		20
Tetrachloroethene	86		84		70-130	2		20
Chlorobenzene	87		87		70-130	0		20
Trichlorofluoromethane	75		72		70-130	4		20
1,2-Dichloroethane	88		90		70-130	2		20
1,1,1-Trichloroethane	84		83		70-130	1		20
Bromodichloromethane	90		92		70-130	2		20
trans-1,3-Dichloropropene	94		94		70-130	0		20
cis-1,3-Dichloropropene	95		96		70-130	1		20
1,1-Dichloropropene	85		84		70-130	1		20
Bromoform	87		88		70-130	1		20
1,1,2,2-Tetrachloroethane	88		88		70-130	0		20
Benzene	87		87		70-130	0		20
Toluene	87		86		70-130	1		20
Ethylbenzene	87		86		70-130	1		20
Chloromethane	73		71		70-130	3		20
Bromomethane	97		92		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 30-35,38-40,42-43		Batch: WG1299283-3 WG1299283-4					
Vinyl chloride	79		77		70-130	3		20
Chloroethane	94		90		70-130	4		20
1,1-Dichloroethene	81		79		70-130	3		20
trans-1,2-Dichloroethene	87		86		70-130	1		20
Trichloroethene	88		88		70-130	0		20
1,2-Dichlorobenzene	87		87		70-130	0		20
1,3-Dichlorobenzene	87		87		70-130	0		20
1,4-Dichlorobenzene	86		86		70-130	0		20
Methyl tert butyl ether	92		93		70-130	1		20
p/m-Xylene	89		89		70-130	0		20
o-Xylene	89		89		70-130	0		20
cis-1,2-Dichloroethene	90		89		70-130	1		20
Dibromomethane	92		94		70-130	2		20
1,2,3-Trichloropropane	87		87		70-130	0		20
Styrene	94		93		70-130	1		20
Dichlorodifluoromethane	**48**	Q	**46**	Q	70-130	4		20
Acetone	102		90		70-130	13		20
Carbon disulfide	75		76		70-130	1		20
Methyl ethyl ketone	90		98		70-130	9		20
Methyl isobutyl ketone	95		95		70-130	0		20
2-Hexanone	99		97		70-130	2		20
Bromochloromethane	89		89		70-130	0		20
Tetrahydrofuran	104		104		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 30-35,38-40,42-43		Batch: WG1299283-3 WG1299283-4					
2,2-Dichloropropane	86		85		70-130	1		20
1,2-Dibromoethane	90		91		70-130	1		20
1,3-Dichloropropane	89		90		70-130	1		20
1,1,1,2-Tetrachloroethane	88		89		70-130	1		20
Bromobenzene	85		85		70-130	0		20
n-Butylbenzene	90		88		70-130	2		20
sec-Butylbenzene	86		84		70-130	2		20
tert-Butylbenzene	84		84		70-130	0		20
o-Chlorotoluene	85		85		70-130	0		20
p-Chlorotoluene	85		84		70-130	1		20
1,2-Dibromo-3-chloropropane	93		94		70-130	1		20
Hexachlorobutadiene	82		81		70-130	1		20
Isopropylbenzene	85		84		70-130	1		20
p-Isopropyltoluene	87		86		70-130	1		20
Naphthalene	87		90		70-130	3		20
n-Propylbenzene	88		86		70-130	2		20
1,2,3-Trichlorobenzene	86		88		70-130	2		20
1,2,4-Trichlorobenzene	90		92		70-130	2		20
1,3,5-Trimethylbenzene	86		85		70-130	1		20
1,2,4-Trimethylbenzene	88		86		70-130	2		20
Diethyl ether	95		96		70-130	1		20
Diisopropyl Ether	94		95		70-130	1		20
Ethyl-Tert-Butyl-Ether	95		96		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1949294

Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 30-35,38-40,42-43		Batch: WG1299283-3 WG1299283-4					
Tertiary-Amyl Methyl Ether	96		97		70-130	1		20
1,4-Dioxane	91		95		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		100		70-130
Toluene-d8	98		98		70-130
4-Bromofluorobenzene	101		100		70-130
Dibromofluoromethane	101		100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 29 Batch: WG1299503-3 WG1299503-4								
Methylene chloride	92		92		70-130	0		20
1,1-Dichloroethane	86		85		70-130	1		20
Chloroform	84		84		70-130	0		20
Carbon tetrachloride	83		83		70-130	0		20
1,2-Dichloropropane	87		87		70-130	0		20
Dibromochloromethane	88		89		70-130	1		20
1,1,2-Trichloroethane	89		90		70-130	1		20
Tetrachloroethene	86		84		70-130	2		20
Chlorobenzene	87		87		70-130	0		20
Trichlorofluoromethane	75		72		70-130	4		20
1,2-Dichloroethane	88		90		70-130	2		20
1,1,1-Trichloroethane	84		83		70-130	1		20
Bromodichloromethane	90		92		70-130	2		20
trans-1,3-Dichloropropene	94		94		70-130	0		20
cis-1,3-Dichloropropene	95		96		70-130	1		20
1,1-Dichloropropene	85		84		70-130	1		20
Bromoform	87		88		70-130	1		20
1,1,2,2-Tetrachloroethane	88		88		70-130	0		20
Benzene	87		87		70-130	0		20
Toluene	87		86		70-130	1		20
Ethylbenzene	87		86		70-130	1		20
Chloromethane	73		71		70-130	3		20
Bromomethane	97		92		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 29 Batch: WG1299503-3 WG1299503-4								
Vinyl chloride	79		77		70-130	3		20
Chloroethane	94		90		70-130	4		20
1,1-Dichloroethene	81		79		70-130	3		20
trans-1,2-Dichloroethene	87		86		70-130	1		20
Trichloroethene	88		88		70-130	0		20
1,2-Dichlorobenzene	87		87		70-130	0		20
1,3-Dichlorobenzene	87		87		70-130	0		20
1,4-Dichlorobenzene	86		86		70-130	0		20
Methyl tert butyl ether	92		93		70-130	1		20
p/m-Xylene	89		89		70-130	0		20
o-Xylene	89		89		70-130	0		20
cis-1,2-Dichloroethene	90		89		70-130	1		20
Dibromomethane	92		94		70-130	2		20
1,2,3-Trichloropropane	87		87		70-130	0		20
Styrene	94		93		70-130	1		20
Dichlorodifluoromethane	**48**	Q	**46**	Q	70-130	4		20
Acetone	102		90		70-130	13		20
Carbon disulfide	75		76		70-130	1		20
Methyl ethyl ketone	90		98		70-130	9		20
Methyl isobutyl ketone	95		95		70-130	0		20
2-Hexanone	99		97		70-130	2		20
Bromochloromethane	89		89		70-130	0		20
Tetrahydrofuran	104		104		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 29 Batch: WG1299503-3 WG1299503-4								
2,2-Dichloropropane	86		85		70-130	1		20
1,2-Dibromoethane	90		91		70-130	1		20
1,3-Dichloropropane	89		90		70-130	1		20
1,1,1,2-Tetrachloroethane	88		89		70-130	1		20
Bromobenzene	85		85		70-130	0		20
n-Butylbenzene	90		88		70-130	2		20
sec-Butylbenzene	86		84		70-130	2		20
tert-Butylbenzene	84		84		70-130	0		20
o-Chlorotoluene	85		85		70-130	0		20
p-Chlorotoluene	85		84		70-130	1		20
1,2-Dibromo-3-chloropropane	93		94		70-130	1		20
Hexachlorobutadiene	82		81		70-130	1		20
Isopropylbenzene	85		84		70-130	1		20
p-Isopropyltoluene	87		86		70-130	1		20
Naphthalene	87		90		70-130	3		20
n-Propylbenzene	88		86		70-130	2		20
1,2,3-Trichlorobenzene	86		88		70-130	2		20
1,2,4-Trichlorobenzene	90		92		70-130	2		20
1,3,5-Trimethylbenzene	86		85		70-130	1		20
1,2,4-Trimethylbenzene	88		86		70-130	2		20
Diethyl ether	95		96		70-130	1		20
Diisopropyl Ether	94		95		70-130	1		20
Ethyl-Tert-Butyl-Ether	95		96		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1949294

Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 29 Batch: WG1299503-3 WG1299503-4								
Tertiary-Amyl Methyl Ether	96		97		70-130	1		20
1,4-Dioxane	91		95		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		100		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	101		100		70-130
Dibromofluoromethane	100		100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 28,41		Batch: WG1299733-3 WG1299733-4					
Methylene chloride	79		80		70-130	1		20
1,1-Dichloroethane	93		93		70-130	0		20
Chloroform	95		94		70-130	1		20
Carbon tetrachloride	100		95		70-130	5		20
1,2-Dichloropropane	93		104		70-130	11		20
Dibromochloromethane	111		103		70-130	7		20
1,1,2-Trichloroethane	102		102		70-130	0		20
Tetrachloroethene	106		106		70-130	0		20
Chlorobenzene	108		108		70-130	0		20
Trichlorofluoromethane	88		89		70-130	1		20
1,2-Dichloroethane	102		96		70-130	6		20
1,1,1-Trichloroethane	103		97		70-130	6		20
Bromodichloromethane	103		109		70-130	6		20
trans-1,3-Dichloropropene	106		112		70-130	6		20
cis-1,3-Dichloropropene	94		110		70-130	16		20
1,1-Dichloropropene	97		92		70-130	5		20
Bromoform	101		101		70-130	0		20
1,1,2,2-Tetrachloroethane	87		103		70-130	17		20
Benzene	100		91		70-130	9		20
Toluene	93		106		70-130	13		20
Ethylbenzene	110		112		70-130	2		20
Chloromethane	84		85		70-130	1		20
Bromomethane	86		86		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 28,41		Batch: WG1299733-3 WG1299733-4					
Vinyl chloride	75		77		70-130	3		20
Chloroethane	80		81		70-130	1		20
1,1-Dichloroethene	85		86		70-130	1		20
trans-1,2-Dichloroethene	91		90		70-130	1		20
Trichloroethene	97		102		70-130	5		20
1,2-Dichlorobenzene	110		107		70-130	3		20
1,3-Dichlorobenzene	112		110		70-130	2		20
1,4-Dichlorobenzene	110		109		70-130	1		20
Methyl tert butyl ether	87		90		70-130	3		20
p/m-Xylene	110		101		70-130	9		20
o-Xylene	104		105		70-130	1		20
cis-1,2-Dichloroethene	91		91		70-130	0		20
Dibromomethane	92		100		70-130	8		20
1,2,3-Trichloropropane	95		103		70-130	8		20
Styrene	111		118		70-130	6		20
Dichlorodifluoromethane	**56**	Q	**57**	Q	70-130	2		20
Acetone	105		109		70-130	4		20
Carbon disulfide	79		80		70-130	1		20
Methyl ethyl ketone	103		102		70-130	1		20
Methyl isobutyl ketone	104		110		70-130	6		20
2-Hexanone	116		121		70-130	4		20
Bromochloromethane	95		93		70-130	2		20
Tetrahydrofuran	109		107		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 28,41		Batch: WG1299733-3 WG1299733-4					
2,2-Dichloropropane	96		92		70-130	4		20
1,2-Dibromoethane	105		110		70-130	5		20
1,3-Dichloropropane	102		106		70-130	4		20
1,1,1,2-Tetrachloroethane	111		106		70-130	5		20
Bromobenzene	90		102		70-130	13		20
n-Butylbenzene	122		118		70-130	3		20
sec-Butylbenzene	116		114		70-130	2		20
tert-Butylbenzene	113		111		70-130	2		20
o-Chlorotoluene	104		108		70-130	4		20
p-Chlorotoluene	112		112		70-130	0		20
1,2-Dibromo-3-chloropropane	96		101		70-130	5		20
Hexachlorobutadiene	111		108		70-130	3		20
Isopropylbenzene	111		106		70-130	5		20
p-Isopropyltoluene	118		115		70-130	3		20
Naphthalene	102		105		70-130	3		20
n-Propylbenzene	98		112		70-130	13		20
1,2,3-Trichlorobenzene	106		106		70-130	0		20
1,2,4-Trichlorobenzene	113		111		70-130	2		20
1,3,5-Trimethylbenzene	109		111		70-130	2		20
1,2,4-Trimethylbenzene	116		113		70-130	3		20
Diethyl ether	86		89		70-130	3		20
Diisopropyl Ether	110		111		70-130	1		20
Ethyl-Tert-Butyl-Ether	97		99		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1949294

Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 28,41		Batch: WG1299733-3 WG1299733-4					
Tertiary-Amyl Methyl Ether	98		94		70-130	4		20
1,4-Dioxane	84		105		70-130	**22**	Q	20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		96		70-130
Toluene-d8	87		105		70-130
4-Bromofluorobenzene	83		98		70-130
Dibromofluoromethane	97		93		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 36-37		Batch: WG1299735-3 WG1299735-4					
Methylene chloride	79		80		70-130	1		20
1,1-Dichloroethane	93		93		70-130	0		20
Chloroform	95		94		70-130	1		20
Carbon tetrachloride	100		95		70-130	5		20
1,2-Dichloropropane	93		104		70-130	11		20
Dibromochloromethane	111		103		70-130	7		20
1,1,2-Trichloroethane	102		102		70-130	0		20
Tetrachloroethene	106		106		70-130	0		20
Chlorobenzene	108		108		70-130	0		20
Trichlorofluoromethane	88		89		70-130	1		20
1,2-Dichloroethane	102		96		70-130	6		20
1,1,1-Trichloroethane	103		97		70-130	6		20
Bromodichloromethane	103		109		70-130	6		20
trans-1,3-Dichloropropene	106		112		70-130	6		20
cis-1,3-Dichloropropene	94		110		70-130	16		20
1,1-Dichloropropene	97		92		70-130	5		20
Bromoform	101		101		70-130	0		20
1,1,2,2-Tetrachloroethane	87		103		70-130	17		20
Benzene	100		91		70-130	9		20
Toluene	93		106		70-130	13		20
Ethylbenzene	110		112		70-130	2		20
Chloromethane	84		85		70-130	1		20
Bromomethane	86		86		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 36-37		Batch: WG1299735-3 WG1299735-4					
Vinyl chloride	75		77		70-130	3		20
Chloroethane	80		81		70-130	1		20
1,1-Dichloroethene	85		86		70-130	1		20
trans-1,2-Dichloroethene	91		90		70-130	1		20
Trichloroethene	97		102		70-130	5		20
1,2-Dichlorobenzene	110		107		70-130	3		20
1,3-Dichlorobenzene	112		110		70-130	2		20
1,4-Dichlorobenzene	110		109		70-130	1		20
Methyl tert butyl ether	87		90		70-130	3		20
p/m-Xylene	110		101		70-130	9		20
o-Xylene	104		105		70-130	1		20
cis-1,2-Dichloroethene	91		91		70-130	0		20
Dibromomethane	92		100		70-130	8		20
1,2,3-Trichloropropane	95		103		70-130	8		20
Styrene	111		118		70-130	6		20
Dichlorodifluoromethane	**56**	Q	**57**	Q	70-130	2		20
Acetone	105		109		70-130	4		20
Carbon disulfide	79		80		70-130	1		20
Methyl ethyl ketone	103		102		70-130	1		20
Methyl isobutyl ketone	104		110		70-130	6		20
2-Hexanone	116		121		70-130	4		20
Bromochloromethane	95		93		70-130	2		20
Tetrahydrofuran	109		107		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 36-37		Batch: WG1299735-3 WG1299735-4					
2,2-Dichloropropane	96		92		70-130	4		20
1,2-Dibromoethane	105		110		70-130	5		20
1,3-Dichloropropane	102		106		70-130	4		20
1,1,1,2-Tetrachloroethane	111		106		70-130	5		20
Bromobenzene	90		102		70-130	13		20
n-Butylbenzene	122		118		70-130	3		20
sec-Butylbenzene	116		114		70-130	2		20
tert-Butylbenzene	113		111		70-130	2		20
o-Chlorotoluene	104		108		70-130	4		20
p-Chlorotoluene	112		112		70-130	0		20
1,2-Dibromo-3-chloropropane	96		101		70-130	5		20
Hexachlorobutadiene	111		108		70-130	3		20
Isopropylbenzene	111		106		70-130	5		20
p-Isopropyltoluene	118		115		70-130	3		20
Naphthalene	102		105		70-130	3		20
n-Propylbenzene	98		112		70-130	13		20
1,2,3-Trichlorobenzene	106		106		70-130	0		20
1,2,4-Trichlorobenzene	113		111		70-130	2		20
1,3,5-Trimethylbenzene	109		111		70-130	2		20
1,2,4-Trimethylbenzene	116		113		70-130	3		20
Diethyl ether	86		89		70-130	3		20
Diisopropyl Ether	110		111		70-130	1		20
Ethyl-Tert-Butyl-Ether	97		99		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1949294

Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 36-37		Batch: WG1299735-3 WG1299735-4					
Tertiary-Amyl Methyl Ether	98		94		70-130	4		20
1,4-Dioxane	84		105		70-130	**22**	Q	20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		96		70-130
Toluene-d8	87		105		70-130
4-Bromofluorobenzene	83		98		70-130
Dibromofluoromethane	97		93		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 44-57 QC Batch ID: WG1299213-6 WG1299213-7 QC Sample: L1949294-48 Client ID: GLX-TPW-607-VOC-4.6												
Methylene chloride	ND	114	95	83		100	82		70-130	7		30
1,1-Dichloroethane	ND	114	120	102		120	100		70-130	7		30
Chloroform	ND	114	94	82		99	80		70-130	6		30
Carbon tetrachloride	ND	114	94	82		99	80		70-130	6		30
1,2-Dichloropropane	ND	114	110	97		120	94		70-130	5		30
Dibromochloromethane	ND	114	72	**63**	Q	72	**58**	Q	70-130	1		30
1,1,2-Trichloroethane	ND	114	89	78		90	72		70-130	0		30
Tetrachloroethene	ND	114	67	**58**	Q	66	**53**	Q	70-130	2		30
Chlorobenzene	ND	114	59	**51**	Q	55	**44**	Q	70-130	7		30
Trichlorofluoromethane	ND	114	97	85		100	84		70-130	7		30
1,2-Dichloroethane	ND	114	83	73		86	**69**	Q	70-130	3		30
1,1,1-Trichloroethane	ND	114	100	91		110	89		70-130	7		30
Bromodichloromethane	ND	114	87	76		88	71		70-130	2		30
trans-1,3-Dichloropropene	ND	114	53	**46**	Q	48	**39**	Q	70-130	9		30
cis-1,3-Dichloropropene	ND	114	70	**61**	Q	68	**55**	Q	70-130	3		30
1,1-Dichloropropene	ND	114	92	80		94	76		70-130	3		30
Bromoform	ND	114	62	**54**	Q	60	**48**	Q	70-130	3		30
1,1,2,2-Tetrachloroethane	ND	114	83	72		83	**66**	Q	70-130	0		30
Benzene	ND	114	100	87		100	84		70-130	4		30
Toluene	ND	114	84	73		84	**67**	Q	70-130	0		30
Ethylbenzene	ND	114	69	**61**	Q	66	**53**	Q	70-130	5		30
Chloromethane	ND	114	110	98		120	98		70-130	9		30
Bromomethane	ND	114	79	**69**	Q	93	74		70-130	16		30

Matrix Spike Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 44-57 QC Batch ID: WG1299213-6 WG1299213-7 QC Sample: L1949294-48 Client ID: GLX-TPW-607-VOC-4.6												
Vinyl chloride	ND	114	110	96		120	98		70-130	10		30
Chloroethane	ND	114	96	84		38	**30**	Q	70-130	**88**	Q	30
1,1-Dichloroethene	ND	114	100	88		110	86		70-130	6		30
trans-1,2-Dichloroethene	ND	114	83	72		87	70		70-130	5		30
Trichloroethene	ND	114	78	**68**	Q	78	**63**	Q	70-130	0		30
1,2-Dichlorobenzene	ND	114	37	**32**	Q	31	**25**	Q	70-130	18		30
1,3-Dichlorobenzene	ND	114	33	**29**	Q	30	**24**	Q	70-130	12		30
1,4-Dichlorobenzene	ND	114	29	**26**	Q	25	**20**	Q	70-130	14		30
Methyl tert butyl ether	ND	114	110	95		120	94		70-130	8		30
p/m-Xylene	ND	228	130	**57**	Q	120	**50**	Q	70-130	5		30
o-Xylene	ND	228	140	**61**	Q	140	**54**	Q	70-130	4		30
cis-1,2-Dichloroethene	ND	114	83	72		86	**69**	Q	70-130	3		30
Dibromomethane	ND	114	70	**61**	Q	69	**56**	Q	70-130	0		30
1,2,3-Trichloropropane	ND	114	82	72		81	**65**	Q	70-130	1		30
Styrene	ND	228	100	**45**	Q	92	**37**	Q	70-130	11		30
Dichlorodifluoromethane	ND	114	79	**69**	Q	86	**69**	Q	70-130	9		30
Acetone	30	114	220	**162**	Q	200	**137**	Q	70-130	7		30
Carbon disulfide	ND	114	82	72		86	**69**	Q	70-130	4		30
Methyl ethyl ketone	ND	114	110	99		120	93		70-130	3		30
Methyl isobutyl ketone	ND	114	110	95		110	89		70-130	3		30
2-Hexanone	ND	114	86	75		87	70		70-130	2		30
Bromochloromethane	ND	114	78	**68**	Q	80	**64**	Q	70-130	3		30
Tetrahydrofuran	ND	114	110	100		120	98		70-130	7		30

Matrix Spike Analysis
Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 44-57 QC Batch ID: WG1299213-6 WG1299213-7 QC Sample: L1949294-48 Client ID: GLX-TPW-607-VOC-4.6												
2,2-Dichloropropane	ND	114	100	91		110	91		70-130	8		30
1,2-Dibromoethane	ND	114	62	**54**	Q	58	**46**	Q	70-130	7		30
1,3-Dichloropropane	ND	114	82	72		81	**65**	Q	70-130	1		30
1,1,1,2-Tetrachloroethane	ND	114	79	70		80	**64**	Q	70-130	1		30
Bromobenzene	ND	114	46	**40**	Q	40	**32**	Q	70-130	13		30
n-Butylbenzene	ND	114	37	**32**	Q	33	**26**	Q	70-130	11		30
sec-Butylbenzene	ND	114	56	**49**	Q	51	**41**	Q	70-130	9		30
tert-Butylbenzene	ND	114	66	**58**	Q	63	**50**	Q	70-130	5		30
o-Chlorotoluene	ND	114	58	**50**	Q	54	**43**	Q	70-130	7		30
p-Chlorotoluene	ND	114	43	**38**	Q	39	**31**	Q	70-130	11		30
1,2-Dibromo-3-chloropropane	ND	114	55	**48**	Q	50	**40**	Q	70-130	9		30
Hexachlorobutadiene	ND	114	28	**24**	Q	24	**20**	Q	70-130	12		30
Isopropylbenzene	ND	114	71	**62**	Q	68	**55**	Q	70-130	4		30
p-Isopropyltoluene	ND	114	49	**43**	Q	45	**36**	Q	70-130	10		30
Naphthalene	ND	114	21	**19**	Q	15	**12**	Q	70-130	**33**	Q	30
n-Propylbenzene	ND	114	57	**50**	Q	53	**42**	Q	70-130	7		30
1,2,3-Trichlorobenzene	ND	114	16	**14**	Q	12	**10**	Q	70-130	23		30
1,2,4-Trichlorobenzene	ND	114	15	**13**	Q	12	**10**	Q	70-130	22		30
1,3,5-Trimethylbenzene	ND	114	60	**53**	Q	56	**45**	Q	70-130	7		30
1,2,4-Trimethylbenzene	ND	114	54	**47**	Q	49	**39**	Q	70-130	10		30
Diethyl ether	ND	114	110	95		120	96		70-130	10		30
Diisopropyl Ether	ND	114	140	121		150	120		70-130	8		30
Ethyl-Tert-Butyl-Ether	ND	114	120	108		130	106		70-130	7		30

Matrix Spike Analysis

Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1949294

Report Date: 10/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 44-57 QC Batch ID: WG1299213-6 WG1299213-7 QC Sample: L1949294-48 Client ID: GLX-TPW-607-VOC-4.6												
Tertiary-Amyl Methyl Ether	ND	114	110	97		120	96		70-130	7		30
1,4-Dioxane	ND	5700	6100	107		6200	99		70-130	1		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		95		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	94		92		70-130
Toluene-d8	95		96		70-130

INORGANICS
&
MISCELLANEOUS

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-01
Client ID: GLX-TPW-601-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 08:57
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.1		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-02
Client ID: GLX-TPW-601-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:00
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.7		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2 **Lab Number:** L1949294

Project Number: 310142.0002.0000 **Report Date:** 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-03 Date Collected: 10/20/19 09:10

Client ID: GLX-TPW-601-5-8 Date Received: 10/21/19

Sample Location: WASHINGTON ST, SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.9		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-04
Client ID: GLX-TPW-615-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:25
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.6		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-05
Client ID: GLX-TPW-615-5-8
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:33
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.6		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-06
Client ID: GLX-TPW-615-8-12
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:41
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.2		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-07
Client ID: GLX-TPW-615-12-15
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:51
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.2		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-08
Client ID: GLX-TPW-602-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:00
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.6		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-09
Client ID: GLX-TPW-602-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:10
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.6		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-10
Client ID: GLX-TPW-602-5-8
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:20
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.9		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-11
Client ID: GLX-TPW-603-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:25
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.8		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-12
Client ID: GLX-TPW-603-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:30
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.0		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-13
Client ID: GLX-TPW-604-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:45
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.5		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-14
Client ID: GLX-TPW-604-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:55
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.8		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-15
Client ID: GLX-TPW-605-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:00
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.5		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-16
Client ID: GLX-TPW-605-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:10
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.6		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-17
Client ID: GLX-TPW-605-5-8
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:20
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	5.5		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-18
Client ID: GLX-TPW-607-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:40
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.8		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-19
Client ID: GLX-TPW-607-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:50
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.9		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-20
Client ID: GLX-TPW-611-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:15
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.0		SU	-	NA	1	-	10/22/19 04:15	1,9045D	JW

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-21
Client ID: GLX-TPW-611-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:25
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.5		SU	-	NA	1	-	10/21/19 23:05	1,9045D	AS

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-22
Client ID: GLX-TPW-612-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:30
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	4.0		SU	-	NA	1	-	10/21/19 23:05	1,9045D	AS

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-23
Client ID: GLX-TPW-612-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:35
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.6		SU	-	NA	1	-	10/21/19 23:05	1,9045D	AS

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-24
Client ID: GLX-TPW-613-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:50
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.1		SU	-	NA	1	-	10/21/19 23:05	1,9045D	AS

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-25
Client ID: GLX-TPW-613-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 13:00
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.1		SU	-	NA	1	-	10/21/19 23:05	1,9045D	AS

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-26
Client ID: GLX-TPW-614-0-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 13:05
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.5		SU	-	NA	1	-	10/21/19 23:05	1,9045D	AS

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-27
Client ID: GLX-TPW-614-2-5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 13:10
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.3		SU	-	NA	1	-	10/21/19 23:05	1,9045D	AS

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-28
Client ID: GLX-TPW-601-VOC-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 08:57
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.1		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-29
Client ID: GLX-TPW-601-VOC-3
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:00
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-30
Client ID: GLX-TPW-601-VOC-6
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:10
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.4		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-31
Client ID: GLX-TPW-615-VOC-1
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:15
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.1		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-32
Client ID: GLX-TPW-615-VOC-4
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:25
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.5		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-33
Client ID: GLX-TPW-615-VOC-7
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:33
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.0		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-34
Client ID: GLX-TPW-615-VOC-10
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:41
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.4		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-35
Client ID: GLX-TPW-615-VOC-13
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 09:51
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.2		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-36
Client ID: GLX-TPW-602-VOC-2
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:00
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.7		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-37
Client ID: GLX-TPW-602-VOC-4.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:10
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.4		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-38
Client ID: GLX-TPW-602-VOC-6.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:20
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-39
Client ID: GLX-TPW-603-VOC-1.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:25
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.2		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-40
Client ID: GLX-TPW-603-VOC-3
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:30
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.7		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-41
Client ID: GLX-TPW-604-VOC-1
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:45
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.3		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-42
Client ID: GLX-TPW-604-VOC-3
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 10:55
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.9		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-43
Client ID: GLX-TPW-605-VOC-1
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:00
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-44
Client ID: GLX-TPW-605-VOC-3
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:00
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.2		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-45
Client ID: DUPA
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:11
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.4		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-46
Client ID: GLX-TPW-605-VOC-8
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:20
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-47
Client ID: GLX-TPW-607-VOC-.6
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:40
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.3		%	0.100	NA	1	-	10/22/19 01:14	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-48
Client ID: GLX-TPW-607-VOC-4.6
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 11:50
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.9		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-49
Client ID: GLX-TPW-611-VOC-1.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:15
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.0		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-50
Client ID: GLX-TPW-611-VOC-4
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:25
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.8		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-51
Client ID: GLX-TPW-612-VOC-1.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:30
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.2		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-52
Client ID: GLX-TPW-612-VOC-4
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:35
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-53
Client ID: GLX-TPW-613-VOC-1.5
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 12:50
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.4		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-54
Client ID: GLX-TPW-613-VOC-4
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 13:00
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.5		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-55
Client ID: GLX-TPW-614-VOC-1
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 13:05
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.5		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-56
Client ID: GLX-TPW-614-VOC-4
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 13:10
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.8		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1949294
Report Date: 10/23/19

SAMPLE RESULTS

Lab ID: L1949294-57
Client ID: DUPB
Sample Location: WASHINGTON ST, SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 10/20/19 13:15
Date Received: 10/21/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	10/22/19 03:30	121,2540G	YA

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1949294

Report Date: 10/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 21-27 Batch: WG1298865-1								
pH	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-20 Batch: WG1298927-1								
pH	100		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: LSP WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1949294

Report Date: 10/23/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 28-47 QC Batch ID: WG1298890-1 QC Sample: L1949294-28 Client ID: GLX-TPW-601-VOC-2						
Solids, Total	95.1	94.8	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 48-57 QC Batch ID: WG1298897-1 QC Sample: L1949294-48 Client ID: GLX-TPW-607-VOC-4.6						
Solids, Total	90.9	91.2	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-20 QC Batch ID: WG1298927-2 QC Sample: L1949294-01 Client ID: GLX-TPW-601-0-2						
pH (H)	7.1	6.8	SU	4		5

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949294-01A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-01B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-02A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-02B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-02C	Glass 500ml/16oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-03A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-03B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-03C	Glass 500ml/16oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-04A	Glass 60ml unpreserved split	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-04B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-05A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-05B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-05C	Glass 500ml/16oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-06A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-06B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-06C	Glass 500ml/16oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-07A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949294-07B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-07C	Glass 500ml/16oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-08A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-08B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-09A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-09B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-09C	Glass 500ml/16oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-10A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-10B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-10C	Glass 500ml/16oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-11A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-11B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-12A	Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1949294-12B	Glass 250ml/8oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-12C	Glass 500ml/16oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-13A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-13B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-14A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-14B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-14C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-15A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-15B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-16A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949294-16B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-16C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-17A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-17B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-17C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-18A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-18B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-19A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-19B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-19C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-20A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-20B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-21A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-21B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-21C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-22A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-22B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-23A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-23B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-23C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-24A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-24B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-24C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)

*Values in parentheses indicate holding time in days

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949294-25A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-25B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-25C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-26A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-26B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-26C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-27A	Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		HOLD-METAL(180)
L1949294-27B	Glass 250ml/8oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-27C	Glass 500ml/16oz unpreserved	B	NA		2.8	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1949294-28A	Vial MeOH preserved	B	NA		2.8	Y	Absent		MCP-8260HLW-10(14)
L1949294-28B	Vial water preserved	B	NA		2.8	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-28C	Vial water preserved	B	NA		2.8	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-28D	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		TS(7)
L1949294-29A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-29B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-29C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-29D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-30A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-30B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-30C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-30D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-31A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-31B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-31C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-31D	Glass 60mL/2oz unpreserved	C	NA		4.6	Y	Absent		TS(7)
L1949294-32A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949294-32B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-32C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-32D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-33A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-33B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-33C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-33D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-34A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-34B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-34C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-34D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-35A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-35B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-35C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-35D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-36A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-36B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-36C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-36D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-37A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-37B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-37C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-37D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-38A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-38B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-38C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-38D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-39A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949294-39B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-39C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-39D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-40A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-40B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-40C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-40D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-41A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-41B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-41C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-41D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-42A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-42B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-42C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-42D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-43A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-43B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-43C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-43D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-44A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-44B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-44C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-44D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-45A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-45B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-45C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-45D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-45E	Glass 60mL/2oz unpreserved	C	NA		4.6	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949294-45F	Glass 250ml/8oz unpreserved	C	NA		4.6	Y	Absent		TS(7)
L1949294-46A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-46B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-46C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-46D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-47A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-47B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-47C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-47D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-48A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-48A1	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-48A2	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-48A3	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-48B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-48B1	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-48B2	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-48B3	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-48C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-48C1	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-48C2	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-48C3	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-48D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-48D1	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-48D2	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-48D3	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-49A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-49B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-49C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949294-49D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-50A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-50B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-50C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-50D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-51A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-51B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-51C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:13	MCP-8260HLW-10(14)
L1949294-51D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-52A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-52B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-52C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-52D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-53A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-53B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-53C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-53D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-54A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-54B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-54C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-54D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-55A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-55B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-55C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-55D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-56A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-56B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)
L1949294-56C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:15	MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Project Name: LSP WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1949294
Report Date: 10/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949294-56D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)
L1949294-57A	Vial MeOH preserved	C	NA		4.6	Y	Absent		MCP-8260HLW-10(14)
L1949294-57B	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:16	MCP-8260HLW-10(14)
L1949294-57C	Vial water preserved	C	NA		4.6	Y	Absent	21-OCT-19 21:16	MCP-8260HLW-10(14)
L1949294-57D	Plastic 2oz unpreserved for TS	C	NA		4.6	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name:	LSP WASHINGTON ST PHASE 2	**Lab Number:**	L1949294
Project Number:	310142.0002.0000	**Report Date:**	10/23/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	LSP WASHINGTON ST PHASE 2	**Lab Number:**	L1949294
Project Number:	310142.0002.0000	**Report Date:**	10/23/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	LSP WASHINGTON ST PHASE 2	**Lab Number:**	L1949294
Project Number:	310142.0002.0000	**Report Date:**	10/23/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and RIyer@trccompanies.com

Date Rec'd in Lab: 10/21/19

ALPHA Job #: L1949294

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 144888

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metasl via 6010C/7471B	Reactivive Sulfide & Cyanide via 7.3	tclp Lead	Ignitability via 1030, pH via 9045	Specific Conductance via 9050			TOTAL # BOTTLES
49294-01	GLX-TPW-601-0-2-	10/20/19	858	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold Run pH
02	GLX-TPW-601-2-5	10/20	900	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
03	GLX-TPW-601-5-8	10/20	910	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
04	GLX-TPW-615-2-5	10/20	925	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
05	GLX-TPW-615-5-8	10/20	933	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
06	GLX-TPW-615-8-12	10/20	941	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
07	GLX-TPW-615-12-15	10/20	951	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
08	GLX-TPW-602-0-2	10/20	1000	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
09	GLX-TPW-602-2-5	10/20	1010	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
10	GLX-TPW-602-5-8	10/20	1020	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
					Container Type	-	-	-	-		-	-	-	-	-	-	-	
					Preservative	-	-	-	-		-	-	-	-	-	-	-	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	955 10/21	[signature] APL	10-21-19 9:55
[signature] APL	10-21-19 11:25	[signature]	10/21/19 11:2

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

CHAIN OF CUSTODY

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ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/21/19 | ALPHA Job #: L1949294

Client Information
Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com
☐ These samples have been Previously analyzed by Alpha

Project Information
Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time
☐ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:
Please send results to: KMorin@trccompanies.com and RIyer@trccompanies.com

Report Information Data Deliverables
☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information
☒ Same as Client info PO #: 144883

Regulatory Requirements/Report Limits
State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS
☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	SVOCs via 8270D	TPH via 80150C GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metasl via 6010C/7471B	Reactivive Sulfide & Cyanide via 7.3	tclp Lead	Ignitability via 1030, pH via 9045	Specific Conductance via 9050			Sample Specific Comments
49294-11	GLX-TPW-6 03-0-2	10/20/19	1025	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold Run pH
12	GLX-TPW-6 03-2-5	10/20	1030	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
13	GLX-TPW-6 04-0-2	10/20	1045	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
14	GLX-TPW-6 04-2-5	10/20	1055	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
15	GLX-TPW-6 05-0-2	10/20	1100	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
16	GLX-TPW-6 05-2-5	10/20	1110	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
17	GLX-TPW-6 05-5-8	10/20	1120	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
18	GLX-TPW-6 07-0-2	10/20	1140	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
19	GLX-TPW-6 07-2-5	10/20	1150	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
20	GLX-TPW-6 11-0-2	10/20	1215	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
	Container Type					-	-	-	-	-	-	-	-	-	-	-	-	
	Preservative					-	-	-	-	-	-	-	-	-	-	-	-	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Jury Pellegrini-Gorman	0955 10/21	ALPHA	10/21/19 9:5
	10/21/19 1112		10/21/19 1120

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FORM NO: 01-01(I) (rev. 1-JAN-12)

CHAIN OF CUSTODY

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ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/21/19

ALPHA Job #: L1949294

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 144828

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and RIyer@trccompanies.com

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reciviive Sulfide & Cyanide via 7.3	tclp Lead	Ignitability via 1030, pH via 9045	Specific Conductance via 9050			Sample Specific Comments
49294-21	GLX-TPW-6 11-2-5	10/20/19	1225	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold Run pH
22	GLX-TPW-6 12-0-2	10/20	1230	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
23	GLX-TPW-6 12-2-5	10/20	1235	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
24	GLX-TPW-6 13-0-2	10/20	1250	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
25	GLX-TPW-6 13-2-5	10/20	1300	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
26	GLX-TPW-6 14-0-2	10/20	1305	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
27	GLX-TPW-6 14-2-5	10/20	1310	Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
	GLX-TPW-6	10/20		Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
	GLX-TPW-6	10/20		Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
	GLX-TPW-6	10/20		Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
	GLX-TPW-6	10/20		Soil	APC	☐	☐	☒	☒	☒	☒	☒	☒	☑	☒	☐	☐	Hold
	Container Type					-	-	-	-	-	-	-	-	-	-	-	-	
	Preservative					-	-	-	-	-	-	-	-	-	-	-	-	

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
	0955 10/21		10-21-19 9:55
	10-21-19 11:25		10/21/19 11:25

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CHAIN OF CUSTODY

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ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and RIyer@trccompanies.com

48 Hour TAT

Date Rec'd in Lab: 10/21/19
ALPHA Job #: L1949294

Report Information ☐ FAX ☒ ADEx
Data Deliverables ☒ EMAIL ☐ Add'l Deliverables
Billing Information ☒ Same as Client info PO #: 144888

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactivity Sulfide & Cyanide via 7.3	tclp Lead	Ignitability via 1030, pH via 9045 (APC)	Specific Conductance via 9050			SAMPLE HANDLING Filtration ☐ Done ☒ Not Needed ☐ Lab to do Preservation ☐ Lab to do (Please specify below)	TOTAL # BOTTLES
49294-28	GLX-TPW-6 01-VOC-2	10/20/19	846 857	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
29	GLX-TPW-6 01-2-VOC-3	10/20	900	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
30	GLX-TPW-6 01-VOC-6	10/20	910	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
31	GLX-TPW-6 15-VOC-1	10/20	915	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
32	GLX-TPW-6 15-VOC-4	10/20	925	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
33	GLX-TPW-6 15-VOC-7	10/20	923	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
34	GLX-TPW-6 15-VOC-10	10/20	941	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
35	GLX-TPW-6 15-VOC-13	10/20	951	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
36	GLX-TPW-6 [illegible]08-VOC-2	10/20	1000	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
37	GLX-TPW-6 02-VOC-4.5	10/20	1010	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

Sample Specific Comments

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	0955 10/21	[illegible]	10/21/19 9:55
[illegible]	10/21/19 11:25	[illegible]	10/21/19 11:25

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms

FORM NO. 01-01(I) (rev. 3-JAN-12)

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ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/21/19

ALPHA Job #: L1949494

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and RIyer@trccompanies.com

48 Hour TAT

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reclvive Sulfide & Cyanide via 7.3	tclp Lead	Ignitability via 1030, pH via 9045	Specific Conductance via 9050			SAMPLE HANDLING Filtration ☐ Done ☒ Not Needed ☐ Lab to do Preservation ☐ Lab to do (Please specify below)	TOTAL # BOTTLES
49494-38	GLX-TPW-602-VOC-6.5	10/20/19	1020	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
39	GLX-TPW-603-VOC-1.5	10/20	1035	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
40	GLX-TPW-603-VOC-3	10/20	1030	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
41	GLX-TPW-604-VOC-1	10/20	1045	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
42	GLX-TPW-604-VOC-3	10/20	1055	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
43	GLX-TPW-605-VOC-1	10/20	1100	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
44	GLX-TPW-605-VOC-3	10/20	1100	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
45	~~GLX-TPW-6~~ DUPA	10/20	1111	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
46	GLX-TPW-605-VOC-8	10/20	1120	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
47	GLX-TPW-607-VOC-6	10/20	1140	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
					Container Type														
					Preservative														

Sample Specific Comments

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	0955 10/21	[signature] AAC	10/21/19 9:55
[signature]	10-21-19 11:25	[signature]	10/21/19 11:25

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

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ALPHA ANALYTICAL LABORATORIES

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/21/19

ALPHA Job #: L1049294

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information – Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 144883

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and RIyer@trccompanies.com

48 Hour TAT

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/8260C (High Level)	VOC via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015DC GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metasl via 6010C/7471B	Reactivive Sulfide & Cyanide via 7.3	tclp Lead	Ignitability via 1030, pH via 9045	Specific Conductance via 9050			TOTAL # BOTTLES	Sample Specific Comments
49294-48	GLX-TPW-6 07 - VOC - 4.6	10/20/19	1150	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
-48	~~GLX-TPW-6~~ MS/MSD-607 7.5	10/20	1150	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
49	GLX-TPW-6 11 - VOC - 1.5	10/20	1215	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
50	GLX-TPW-6 11 - VOC - 4	10/20	1225	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
51	GLX-TPW-6 12 - VOC - 1.5	10/20	1230	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
52	GLX-TPW-6 12 - VOC - 4	10/20	1235	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
53	GLX-TPW-6 13 - VOC - 1.5	10/20	1250	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
54	GLX-TPW-6 13 - VOC - 4	10/20	1300	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
55	GLX-TPW-6 14 - VOC - 1	10/20	1305	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
56	GLX-TPW-6 14 - VOC - 4	10/20	1310	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN	
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Kelly - SGW	0955 10/21/19	AAC	10-21-19 9:55
	10-21-19 11:28		10/21/19 11:28

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/21/19

ALPHA Job #: L1949294

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 144888

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and Rlyer@trccompanies.com

48 Hour TAT

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	SVOCs via 8270D	TPH via 80150C GC-FID Quant	PCBs via 8082A w/SoxNet extraction	MCP 14 Metasl via 6010C/7471B	Rectivive Sulfide & Cyanide via 7.3	Icip Lead	Ignitability via 1030, pH via 9045	Specific Conductance via 9050			Sample Specific Comments
49294-57	~~GLX-TPW-6~~ DUP B	10/20/19	1315	Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒ APC	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
	GLX-TPW-6	10/20		Soil	APC	☒	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	RUN
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-	
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	0955 10/21	[illegible] ABL	10-21-19 9:55
[illegible] ABL	10/21/19 1125		10/21/19 1125

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1949294
Project Name	: LSP WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1299213-5	**Lab File ID**	: V10191022A05
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 10/22/19 09:38

Client Sample No.	Lab Sample ID	Analysis Date
WG1299213-3LCS	WG1299213-3	10/22/19 07:56
WG1299213-4LCSD	WG1299213-4	10/22/19 08:21
GLX-TPW-605-VOC-3	L1949294-44	10/22/19 10:54
DUPA	L1949294-45	10/22/19 11:19
GLX-TPW-605-VOC-8	L1949294-46	10/22/19 11:44
GLX-TPW-607-VOC-.6	L1949294-47	10/22/19 12:10
GLX-TPW-607-VOC-4.6	L1949294-48	10/22/19 12:35
GLX-TPW-611-VOC-1.5	L1949294-49	10/22/19 13:00
GLX-TPW-611-VOC-4	L1949294-50	10/22/19 13:26
GLX-TPW-612-VOC-1.5	L1949294-51	10/22/19 13:51
GLX-TPW-612-VOC-4	L1949294-52	10/22/19 14:17
GLX-TPW-613-VOC-1.5	L1949294-53	10/22/19 14:42
GLX-TPW-613-VOC-4	L1949294-54	10/22/19 15:07
GLX-TPW-614-VOC-1	L1949294-55	10/22/19 15:33
GLX-TPW-614-VOC-4	L1949294-56	10/22/19 15:58
DUPB	L1949294-57	10/22/19 16:24
GLX-TPW-607-VOC-4.6MS	WG1299213-6	10/22/19 18:05
GLX-TPW-607-VOC-4.6MSD	WG1299213-7	10/22/19 18:30

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1949294
Project Name	: LSP WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1299503-5	**Lab File ID**	: V04191022A05
Instrument ID	: VOA104		
Matrix	: SOIL	**Analysis Date**	: 10/22/19 09:51

Client Sample No.	Lab Sample ID	Analysis Date
WG1299503-3LCS	WG1299503-3	10/22/19 08:03
WG1299503-4LCSD	WG1299503-4	10/22/19 08:29
GLX-TPW-601-VOC-3	L1949294-29	10/22/19 18:38

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1949294
Project Name	: LSP WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1299283-5	**Lab File ID**	: V04191022A05
Instrument ID	: VOA104		
Matrix	: SOIL	**Analysis Date**	: 10/22/19 09:51

Client Sample No.	Lab Sample ID	Analysis Date
WG1299283-3LCS	WG1299283-3	10/22/19 08:03
WG1299283-4LCSD	WG1299283-4	10/22/19 08:29
GLX-TPW-601-VOC-6	L1949294-30	10/22/19 12:18
GLX-TPW-615-VOC-1	L1949294-31	10/22/19 12:45
GLX-TPW-615-VOC-4	L1949294-32	10/22/19 13:12
GLX-TPW-615-VOC-7	L1949294-33	10/22/19 13:39
GLX-TPW-615-VOC-10	L1949294-34	10/22/19 14:06
GLX-TPW-615-VOC-13	L1949294-35	10/22/19 14:33
GLX-TPW-602-VOC-6.5	L1949294-38	10/22/19 15:01
GLX-TPW-603-VOC-1.5	L1949294-39	10/22/19 15:27
GLX-TPW-603-VOC-3	L1949294-40	10/22/19 15:55
GLX-TPW-604-VOC-3	L1949294-42	10/22/19 16:22
GLX-TPW-605-VOC-1	L1949294-43	10/22/19 16:49

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1949294
Project Name	: LSP WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1299735-5	**Lab File ID**	: V23191023A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 10/23/19 09:18

Client Sample No.	Lab Sample ID	Analysis Date
WG1299735-3LCS	WG1299735-3	10/23/19 07:41
WG1299735-4LCSD	WG1299735-4	10/23/19 08:05
GLX-TPW-602-VOC-2	L1949294-36	10/23/19 14:32
GLX-TPW-602-VOC-4.5	L1949294-37D	10/23/19 14:56

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1949294
Project Name	: LSP WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1299733-5	**Lab File ID**	: V23191023A05
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 10/23/19 09:18

Client Sample No.	Lab Sample ID	Analysis Date
WG1299733-3LCS	WG1299733-3	10/23/19 07:41
WG1299733-4LCSD	WG1299733-4	10/23/19 08:05
GLX-TPW-604-VOC-1	L1949294-41	10/23/19 12:31
GLX-TPW-601-VOC-2	L1949294-28	10/23/19 12:55
GLX-TPW-601-VOC-2	L1949294-28R	10/23/19 16:09

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA110		**Calibration Date**	: 10/22/19 07:56	
Lab File ID	: V10191022A01		**Init. Calib. Date(s)**	: 09/18/19	09/18/19
Sample No	: WG1299213-2		**Init. Calib. Times**	: 17:36	21:00
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	85	0
Dichlorodifluoromethane	0.281	0.164	-	41.6*	20	46	0
Chloromethane	0.298	0.271	-	9.1	20	81	-.01
Vinyl chloride	0.283	0.256	-	9.5	20	75	0
Bromomethane	40	32.899	-	17.8	20	78	0
Chloroethane	0.195	0.173	-	11.3	20	79	0
Trichlorofluoromethane	0.371	0.288	-	22.4*	20	63	0
Ethyl ether	0.136	0.133	-	2.2	20	82	0
1,1-Dichloroethene	0.216	0.188	-	13	20	73	0
Carbon disulfide	0.719	0.64	-	11	20	75	0
Freon-113	0.211	0.183*	-	13.3	20	69	0
Acrolein	0.044	0.047*	-	-6.8	20	88	0
Methylene chloride	0.249	0.238	-	4.4	20	82	0
Acetone	40	44.455	-	-11.1	20	98	0
trans-1,2-Dichloroethene	0.244	0.225	-	7.8	20	77	0
Methyl acetate	0.153	0.184	-	-20.3*	20	98	0
Methyl tert-butyl ether	0.7	0.679	-	3	20	80	0
tert-Butyl alcohol	0.032	0.03*	-	6.3	20	74	0
Diisopropyl ether	0.799	0.943	-	-18	20	99	0
1,1-Dichloroethane	0.455	0.464	-	-2	20	86	0
Halothane	0.185	0.174	-	5.9	20	78	0
Acrylonitrile	0.075	0.086	-	-14.7	20	85	0
Ethyl tert-butyl ether	0.782	0.845	-	-8.1	20	90	0
Vinyl acetate	0.592	0.589	-	0.5	20	76	0
cis-1,2-Dichloroethene	0.265	0.251	-	5.3	20	79	0
2,2-Dichloropropane	0.393	0.343	-	12.7	20	75	0
Bromochloromethane	0.125	0.117	-	6.4	20	77	0
Cyclohexane	0.404	0.422	-	-4.5	20	85	0
Chloroform	0.451	0.41	-	9.1	20	79	0
Ethyl acetate	0.246	0.272	-	-10.6	20	90	-.01
Carbon tetrachloride	0.369	0.294	-	20.3*	20	69	0
Tetrahydrofuran	0.081	0.092	-	-13.6	20	93	0
Dibromofluoromethane	0.253	0.235	-	7.1	20	78	0
1,1,1-Trichloroethane	0.394	0.346	-	12.2	20	73	0
2-Butanone	40	40.926	-	-2.3	20	81	-.01
1,1-Dichloropropene	0.328	0.312	-	4.9	20	79	0
Benzene	0.98	0.944	-	3.7	20	83	0
tert-Amyl methyl ether	0.704	0.704	-	0	20	83	0
1,2-Dichloroethane-d4	0.286	0.267	-	6.6	20	81	0
1,2-Dichloroethane	0.353	0.333	-	5.7	20	79	0
Methyl cyclohexane	0.39	0.372	-	4.6	20	76	0
Trichloroethene	0.255	0.236	-	7.5	20	79	0
Dibromomethane	0.155	0.144	-	7.1	20	78	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA110		**Calibration Date**	: 10/22/19 07:56	
Lab File ID	: V10191022A01		**Init. Calib. Date(s)**	: 09/18/19	09/18/19
Sample No	: WG1299213-2		**Init. Calib. Times**	: 17:36	21:00
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.252	0.269	-	-6.7	20	88	0
2-Chloroethyl vinyl ether	0.154	0.159	-	-3.2	20	79	0
Bromodichloromethane	0.345	0.322	-	6.7	20	79	0
1,4-Dioxane	0.00243	0.0024*	-	1.2	20	79	0
cis-1,3-Dichloropropene	0.406	0.406	-	0	20	81	0
Chlorobenzene-d5	1	1	-	0	20	85	0
Toluene-d8	1.293	1.239	-	4.2	20	82	0
Toluene	0.836	0.784	-	6.2	20	80	0
4-Methyl-2-pentanone	0.129	0.134	-	-3.9	20	83	0
Tetrachloroethene	0.337	0.279	-	17.2	20	70	0
trans-1,3-Dichloropropene	0.489	0.473	-	3.3	20	78	0
Ethyl methacrylate	0.414	0.398	-	3.9	20	78	0
1,1,2-Trichloroethane	0.239	0.237	-	0.8	20	83	0
Chlorodibromomethane	0.356	0.311	-	12.6	20	73	0
1,3-Dichloropropane	0.491	0.5	-	-1.8	20	84	0
1,2-Dibromoethane	0.285	0.268	-	6	20	76	0
2-Hexanone	0.232	0.218	-	6	20	80	0
Chlorobenzene	0.966	0.865	-	10.5	20	77	0
Ethylbenzene	1.63	1.491	-	8.5	20	78	0
1,1,1,2-Tetrachloroethane	0.345	0.291	-	15.7	20	72	0
p/m Xylene	0.611	0.561	-	8.2	20	78	0
o Xylene	0.596	0.545	-	8.6	20	78	0
Styrene	0.991	0.916	-	7.6	20	77	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	82	0
Bromoform	0.427	0.355	-	16.9	20	66	0
Isopropylbenzene	3.089	2.832	-	8.3	20	75	0
4-Bromofluorobenzene	0.939	0.917	-	2.3	20	80	0
Bromobenzene	0.748	0.659	-	11.9	20	71	0
n-Propylbenzene	3.694	3.541	-	4.1	20	79	0
1,4-Dichlorobutane	1.054	1.127	-	-6.9	20	90	0
1,1,2,2-Tetrachloroethane	0.755	0.759	-	-0.5	20	80	0
4-Ethyltoluene	2.986	2.979	-	0.2	20	81	0
2-Chlorotoluene	2.183	2.072	-	5.1	20	78	0
1,3,5-Trimethylbenzene	2.628	2.392	-	9	20	74	0
1,2,3-Trichloropropane	0.616	0.613	-	0.5	20	80	0
trans-1,4-Dichloro-2-buten	0.23	0.227	-	1.3	20	80	0
4-Chlorotoluene	2.284	2.142	-	6.2	20	77	0
tert-Butylbenzene	2.267	2.018	-	11	20	72	0
1,2,4-Trimethylbenzene	2.587	2.398	-	7.3	20	75	0
sec-Butylbenzene	3.34	3.094	-	7.4	20	75	0
p-Isopropyltoluene	2.916	2.661	-	8.7	20	74	0
1,3-Dichlorobenzene	1.47	1.317	-	10.4	20	73	0
1,4-Dichlorobenzene	1.508	1.335	-	11.5	20	73	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA110		**Calibration Date**	: 10/22/19 07:56	
Lab File ID	: V10191022A01		**Init. Calib. Date(s)**	: 09/18/19	09/18/19
Sample No	: WG1299213-2		**Init. Calib. Times**	: 17:36	21:00
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.722	1.664	-	3.4	20	79	0
n-Butylbenzene	2.69	2.59	-	3.7	20	78	0
1,2-Dichlorobenzene	1.383	1.237	-	10.6	20	72	0
1,2,4,5-Tetramethylbenzene	2.747	2.606	-	5.1	20	78	0
1,2-Dibromo-3-chloropropan	0.132	0.107	-	18.9	20	62	0
1,3,5-Trichlorobenzene	1.028	0.927	-	9.8	20	74	0
Hexachlorobutadiene	0.47	0.355	-	24.5*	20	63	0
1,2,4-Trichlorobenzene	0.94	0.805	-	14.4	20	71	0
Naphthalene	2.449	2.174	-	11.2	20	71	0
1,2,3-Trichlorobenzene	0.889	0.749	-	15.7	20	70	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1949294		
Project Name	: LSP WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA104	**Calibration Date**	: 10/22/19 08:03		
Lab File ID	: V04191022A01	**Init. Calib. Date(s)**	: 09/12/19	09/12/19	
Sample No	: WG1299283-2	**Init. Calib. Times**	: 02:24	05:55	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	145	0
Dichlorodifluoromethane	0.352	0.169	-	52*	20	71	0
Chloromethane	0.588	0.43	-	26.9*	20	125	0
Vinyl chloride	0.44	0.347	-	21.1*	20	125	0
Bromomethane	40	38.641	-	3.4	20	157	0
Chloroethane	0.209	0.197	-	5.7	20	147	0
Trichlorofluoromethane	0.453	0.338	-	25.4*	20	113	0
Ethyl ether	0.142	0.135	-	4.9	20	156	0
1,1-Dichloroethene	0.287	0.232	-	19.2	20	126	0
Carbon disulfide	1.017	0.764	-	24.9*	20	121	0
Freon-113	0.282	0.221	-	21.6*	20	117	0
Acrolein	0.048	0.046*	-	4.2	20	135	0
Methylene chloride	40	37.016	-	7.5	20	146	0
Acetone	0.061	0.062*	-	-1.6	20	159	0
trans-1,2-Dichloroethene	0.317	0.276	-	12.9	20	138	0
Methyl acetate	0.164	0.175	-	-6.7	20	161	0
Methyl tert-butyl ether	0.726	0.669	-	7.9	20	151	0
tert-Butyl alcohol	0.034	0.031*	-	8.8	20	148	0
Diisopropyl ether	1.413	1.336	-	5.4	20	155	0
1,1-Dichloroethane	0.747	0.646	-	13.5	20	141	0
Halothane	0.242	0.218	-	9.9	20	141	0
Acrylonitrile	0.082	0.079	-	3.7	20	144	0
Ethyl tert-butyl ether	1.239	1.175	-	5.2	20	156	0
Vinyl acetate	0.787	0.675	-	14.2	20	130	0
cis-1,2-Dichloroethene	0.343	0.307	-	10.5	20	145	0
2,2-Dichloropropane	0.468	0.404	-	13.7	20	140	0
Bromochloromethane	0.15	0.134	-	10.7	20	145	0
Cyclohexane	0.758	0.593	-	21.8*	20	119	0
Chloroform	0.582	0.489	-	16	20	144	0
Ethyl acetate	40	34.431	-	13.9	20	127	0
Carbon tetrachloride	0.418	0.346	-	17.2	20	127	0
Tetrahydrofuran	0.088	0.091	-	-3.4	20	163	0
Dibromofluoromethane	0.246	0.247	-	-0.4	20	145	0
1,1,1-Trichloroethane	0.48	0.402	-	16.2	20	132	0
2-Butanone	0.117	0.106	-	9.4	20	144	0
1,1-Dichloropropene	0.422	0.36	-	14.7	20	133	0
Benzene	1.266	1.106	-	12.6	20	143	0
tert-Amyl methyl ether	0.781	0.747	-	4.4	20	157	0
1,2-Dichloroethane-d4	0.241	0.237	-	1.7	20	143	0
1,2-Dichloroethane	0.432	0.383	-	11.3	20	146	0
Methyl cyclohexane	0.498	0.421	-	15.5	20	126	0
Trichloroethene	0.324	0.284	-	12.3	20	140	0
Dibromomethane	0.162	0.15	-	7.4	20	147	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA104		**Calibration Date**	: 10/22/19 08:03	
Lab File ID	: V04191022A01		**Init. Calib. Date(s)**	: 09/12/19	09/12/19
Sample No	: WG1299283-2		**Init. Calib. Times**	: 02:24	05:55
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.424	0.369	-	13	20	144	0
2-Chloroethyl vinyl ether	0.182	0.167	-	8.2	20	135	0
Bromodichloromethane	0.411	0.372	-	9.5	20	147	0
1,4-Dioxane	2000	1811.692	-	9.4	20	124	0
cis-1,3-Dichloropropene	0.479	0.454	-	5.2	20	150	0
Chlorobenzene-d5	1	1	-	0	20	149	0
Toluene-d8	1.277	1.258	-	1.5	20	148	0
Toluene	1.033	0.897	-	13.2	20	145	0
4-Methyl-2-pentanone	0.148	0.142	-	4.1	20	145	0
Tetrachloroethene	0.426	0.365	-	14.3	20	135	0
trans-1,3-Dichloropropene	0.518	0.485	-	6.4	20	149	0
Ethyl methacrylate	0.381	0.375	-	1.6	20	151	0
1,1,2-Trichloroethane	0.265	0.236	-	10.9	20	148	0
Chlorodibromomethane	0.393	0.345	-	12.2	20	143	0
1,3-Dichloropropane	0.522	0.465	-	10.9	20	148	0
1,2-Dibromoethane	0.304	0.274	-	9.9	20	145	0
2-Hexanone	0.232	0.229	-	1.3	20	148	0
Chlorobenzene	1.154	1.001	-	13.3	20	147	0
Ethylbenzene	1.978	1.718	-	13.1	20	143	0
1,1,1,2-Tetrachloroethane	0.4	0.351	-	12.3	20	145	0
p/m Xylene	0.74	0.662	-	10.5	20	146	0
o Xylene	0.725	0.647	-	10.8	20	149	0
Styrene	1.154	1.079	-	6.5	20	153	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	150	0
Bromoform	0.441	0.382	-	13.4	20	141	0
Isopropylbenzene	3.747	3.188	-	14.9	20	140	0
4-Bromofluorobenzene	0.932	0.941	-	-1	20	152	0
Bromobenzene	0.935	0.795	-	15	20	146	0
n-Propylbenzene	4.444	3.895	-	12.4	20	143	0
1,4-Dichlorobutane	1.432	1.249	-	12.8	20	147	0
1,1,2,2-Tetrachloroethane	0.75	0.659	-	12.1	20	146	0
4-Ethyltoluene	3.648	3.386	-	7.2	20	153	0
2-Chlorotoluene	2.681	2.286	-	14.7	20	144	0
1,3,5-Trimethylbenzene	3.185	2.737	-	14.1	20	145	0
1,2,3-Trichloropropane	0.56	0.487	-	13	20	149	0
trans-1,4-Dichloro-2-buten	0.22	0.215	-	2.3	20	151	0
4-Chlorotoluene	2.812	2.388	-	15.1	20	148	0
tert-Butylbenzene	2.665	2.247	-	15.7	20	139	0
1,2,4-Trimethylbenzene	3.142	2.753	-	12.4	20	148	0
sec-Butylbenzene	4.046	3.458	-	14.5	20	139	0
p-Isopropyltoluene	3.393	2.959	-	12.8	20	142	0
1,3-Dichlorobenzene	1.803	1.57	-	12.9	20	148	0
1,4-Dichlorobenzene	1.81	1.555	-	14.1	20	150	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA104		**Calibration Date**	: 10/22/19 08:03	
Lab File ID	: V04191022A01		**Init. Calib. Date(s)**	: 09/12/19	09/12/19
Sample No	: WG1299283-2		**Init. Calib. Times**	: 02:24	05:55
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.995	1.868	-	6.4	20	153	0
n-Butylbenzene	3.125	2.804	-	10.3	20	145	0
1,2-Dichlorobenzene	1.644	1.427	-	13.2	20	149	0
1,2,4,5-Tetramethylbenzene	3.172	3.018	-	4.9	20	159	0
1,2-Dibromo-3-chloropropan	0.104	0.097	-	6.7	20	144	0
1,3,5-Trichlorobenzene	1.236	1.176	-	4.9	20	162	0
Hexachlorobutadiene	0.577	0.47	-	18.5	20	138	0
1,2,4-Trichlorobenzene	1.064	0.952	-	10.5	20	154	0
Naphthalene	2.102	1.832	-	12.8	20	148	0
1,2,3-Trichlorobenzene	0.944	0.813	-	13.9	20	148	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA104		**Calibration Date**	: 10/22/19 08:03	
Lab File ID	: V04191022A01		**Init. Calib. Date(s)**	: 09/12/19	09/12/19
Sample No	: WG1299503-2		**Init. Calib. Times**	: 02:24	05:55
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	145	0
Dichlorodifluoromethane	0.352	0.169	-	52*	20	71	0
Chloromethane	0.588	0.43	-	26.9*	20	125	0
Vinyl chloride	0.44	0.347	-	21.1*	20	125	0
Bromomethane	40	38.641	-	3.4	20	157	0
Chloroethane	0.209	0.197	-	5.7	20	147	0
Trichlorofluoromethane	0.453	0.338	-	25.4*	20	113	0
Ethyl ether	0.142	0.135	-	4.9	20	156	0
1,1-Dichloroethene	0.287	0.232	-	19.2	20	126	0
Carbon disulfide	1.017	0.764	-	24.9*	20	121	0
Freon-113	0.282	0.221	-	21.6*	20	117	0
Acrolein	0.048	0.046*	-	4.2	20	135	0
Methylene chloride	40	37.016	-	7.5	20	146	0
Acetone	0.061	0.062*	-	-1.6	20	159	0
trans-1,2-Dichloroethene	0.317	0.276	-	12.9	20	138	0
Methyl acetate	0.164	0.175	-	-6.7	20	161	0
Methyl tert-butyl ether	0.726	0.669	-	7.9	20	151	0
tert-Butyl alcohol	0.034	0.031*	-	8.8	20	148	0
Diisopropyl ether	1.413	1.336	-	5.4	20	155	0
1,1-Dichloroethane	0.747	0.646	-	13.5	20	141	0
Halothane	0.242	0.218	-	9.9	20	141	0
Acrylonitrile	0.082	0.079	-	3.7	20	144	0
Ethyl tert-butyl ether	1.239	1.175	-	5.2	20	156	0
Vinyl acetate	0.787	0.675	-	14.2	20	130	0
cis-1,2-Dichloroethene	0.343	0.307	-	10.5	20	145	0
2,2-Dichloropropane	0.468	0.404	-	13.7	20	140	0
Bromochloromethane	0.15	0.134	-	10.7	20	145	0
Cyclohexane	0.758	0.593	-	21.8*	20	119	0
Chloroform	0.582	0.489	-	16	20	144	0
Ethyl acetate	40	34.431	-	13.9	20	127	0
Carbon tetrachloride	0.418	0.346	-	17.2	20	127	0
Tetrahydrofuran	0.088	0.091	-	-3.4	20	163	0
Dibromofluoromethane	0.246	0.247	-	-0.4	20	145	0
1,1,1-Trichloroethane	0.48	0.402	-	16.2	20	132	0
2-Butanone	0.117	0.106	-	9.4	20	144	0
1,1-Dichloropropene	0.422	0.36	-	14.7	20	133	0
Benzene	1.266	1.106	-	12.6	20	143	0
tert-Amyl methyl ether	0.781	0.747	-	4.4	20	157	0
1,2-Dichloroethane-d4	0.241	0.237	-	1.7	20	143	0
1,2-Dichloroethane	0.432	0.383	-	11.3	20	146	0
Methyl cyclohexane	0.498	0.421	-	15.5	20	126	0
Trichloroethene	0.324	0.284	-	12.3	20	140	0
Dibromomethane	0.162	0.15	-	7.4	20	147	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA104		**Calibration Date**	: 10/22/19 08:03	
Lab File ID	: V04191022A01		**Init. Calib. Date(s)**	: 09/12/19	09/12/19
Sample No	: WG1299503-2		**Init. Calib. Times**	: 02:24	05:55
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.424	0.369	-	13	20	144	0
2-Chloroethyl vinyl ether	0.182	0.167	-	8.2	20	135	0
Bromodichloromethane	0.411	0.372	-	9.5	20	147	0
1,4-Dioxane	2000	1811.692	-	9.4	20	124	0
cis-1,3-Dichloropropene	0.479	0.454	-	5.2	20	150	0
Chlorobenzene-d5	1	1	-	0	20	149	0
Toluene-d8	1.277	1.258	-	1.5	20	148	0
Toluene	1.033	0.897	-	13.2	20	145	0
4-Methyl-2-pentanone	0.148	0.142	-	4.1	20	145	0
Tetrachloroethene	0.426	0.365	-	14.3	20	135	0
trans-1,3-Dichloropropene	0.518	0.485	-	6.4	20	149	0
Ethyl methacrylate	0.381	0.375	-	1.6	20	151	0
1,1,2-Trichloroethane	0.265	0.236	-	10.9	20	148	0
Chlorodibromomethane	0.393	0.345	-	12.2	20	143	0
1,3-Dichloropropane	0.522	0.465	-	10.9	20	148	0
1,2-Dibromoethane	0.304	0.274	-	9.9	20	145	0
2-Hexanone	0.232	0.229	-	1.3	20	148	0
Chlorobenzene	1.154	1.001	-	13.3	20	147	0
Ethylbenzene	1.978	1.718	-	13.1	20	143	0
1,1,1,2-Tetrachloroethane	0.4	0.351	-	12.3	20	145	0
p/m Xylene	0.74	0.662	-	10.5	20	146	0
o Xylene	0.725	0.647	-	10.8	20	149	0
Styrene	1.154	1.079	-	6.5	20	153	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	150	0
Bromoform	0.441	0.382	-	13.4	20	141	0
Isopropylbenzene	3.747	3.188	-	14.9	20	140	0
4-Bromofluorobenzene	0.932	0.941	-	-1	20	152	0
Bromobenzene	0.935	0.795	-	15	20	146	0
n-Propylbenzene	4.444	3.895	-	12.4	20	143	0
1,4-Dichlorobutane	1.432	1.249	-	12.8	20	147	0
1,1,2,2-Tetrachloroethane	0.75	0.659	-	12.1	20	146	0
4-Ethyltoluene	3.648	3.386	-	7.2	20	153	0
2-Chlorotoluene	2.681	2.286	-	14.7	20	144	0
1,3,5-Trimethylbenzene	3.185	2.737	-	14.1	20	145	0
1,2,3-Trichloropropane	0.56	0.487	-	13	20	149	0
trans-1,4-Dichloro-2-buten	0.22	0.215	-	2.3	20	151	0
4-Chlorotoluene	2.812	2.388	-	15.1	20	148	0
tert-Butylbenzene	2.665	2.247	-	15.7	20	139	0
1,2,4-Trimethylbenzene	3.142	2.753	-	12.4	20	148	0
sec-Butylbenzene	4.046	3.458	-	14.5	20	139	0
p-Isopropyltoluene	3.393	2.959	-	12.8	20	142	0
1,3-Dichlorobenzene	1.803	1.57	-	12.9	20	148	0
1,4-Dichlorobenzene	1.81	1.555	-	14.1	20	150	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA104		**Calibration Date**	: 10/22/19 08:03	
Lab File ID	: V04191022A01		**Init. Calib. Date(s)**	: 09/12/19	09/12/19
Sample No	: WG1299503-2		**Init. Calib. Times**	: 02:24	05:55
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.995	1.868	-	6.4	20	153	0
n-Butylbenzene	3.125	2.804	-	10.3	20	145	0
1,2-Dichlorobenzene	1.644	1.427	-	13.2	20	149	0
1,2,4,5-Tetramethylbenzene	3.172	3.018	-	4.9	20	159	0
1,2-Dibromo-3-chloropropan	0.104	0.097	-	6.7	20	144	0
1,3,5-Trichlorobenzene	1.236	1.176	-	4.9	20	162	0
Hexachlorobutadiene	0.577	0.47	-	18.5	20	138	0
1,2,4-Trichlorobenzene	1.064	0.952	-	10.5	20	154	0
Naphthalene	2.102	1.832	-	12.8	20	148	0
1,2,3-Trichlorobenzene	0.944	0.813	-	13.9	20	148	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA123		**Calibration Date**	: 10/23/19 07:41	
Lab File ID	: V23191023A01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1299733-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	81	-.02
Dichlorodifluoromethane	0.268	0.149	-	44.4*	20	43	0
Chloromethane	0.275	0.233	-	15.3	20	69	0
Vinyl chloride	0.312	0.235	-	24.7*	20	59	0
Bromomethane	0.233	0.201	-	13.7	20	77	0
Chloroethane	0.235	0.189	-	19.6	20	66	0
Trichlorofluoromethane	0.429	0.375	-	12.6	20	68	0
Ethyl ether	0.143	0.123	-	14	20	70	0
1,1-Dichloroethene	0.214	0.183	-	14.5	20	68	0
Carbon disulfide	0.725	0.573	-	21*	20	65	0
Freon-113	0.216	0.178	-	17.6	20	64	0
Acrolein	0.05	0.048*	-	4	20	83	-.01
Methylene chloride	0.28	0.221	-	21.1*	20	71	-.01
Acetone	40	42.024	-	-5.1	20	86	-.02
trans-1,2-Dichloroethene	0.245	0.222	-	9.4	20	73	0
Methyl acetate	0.187	0.205	-	-9.6	20	91	-.02
Methyl tert-butyl ether	0.725	0.632	-	12.8	20	70	-.01
tert-Butyl alcohol	0.038	0.034*	-	10.5	20	74	-.02
Diisopropyl ether	0.748	0.823	-	-10	20	89	-.02
1,1-Dichloroethane	0.436	0.406	-	6.9	20	75	-.01
Halothane	0.182	0.179	-	1.6	20	77	-.01
Acrylonitrile	0.093	0.093	-	0	20	81	-.02
Ethyl tert-butyl ether	0.763	0.743	-	2.6	20	79	-.02
Vinyl acetate	0.662	0.608	-	8.2	20	75	-.02
cis-1,2-Dichloroethene	0.275	0.25	-	9.1	20	73	-.01
2,2-Dichloropropane	0.366	0.35	-	4.4	20	76	-.02
Bromochloromethane	0.134	0.127	-	5.2	20	76	-.01
Cyclohexane	0.39	0.359	-	7.9	20	74	-.01
Chloroform	0.43	0.407	-	5.3	20	76	-.01
Ethyl acetate	0.3	0.319	-	-6.3	20	90	-.02
Carbon tetrachloride	0.331	0.33	-	0.3	20	78	-.01
Tetrahydrofuran	0.106	0.116	-	-9.4	20	92	-.02
Dibromofluoromethane	0.262	0.253	-	3.4	20	77	-.01
1,1,1-Trichloroethane	0.365	0.376	-	-3	20	80	-.02
2-Butanone	0.139	0.143	-	-2.9	20	94	-.02
1,1-Dichloropropene	0.318	0.31	-	2.5	20	75	-.01
Benzene	0.959	0.954	-	0.5	20	80	-.01
tert-Amyl methyl ether	0.734	0.721	-	1.8	20	79	-.02
1,2-Dichloroethane-d4	0.29	0.293	-	-1	20	84	-.02
1,2-Dichloroethane	0.342	0.348	-	-1.8	20	83	-.02
Methyl cyclohexane	0.415	0.345	-	16.9	20	66	-.02
Trichloroethene	0.249	0.241	-	3.2	20	77	-.02
Dibromomethane	0.164	0.152	-	7.3	20	75	-.02

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1949294		
Project Name	: LSP WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA123	**Calibration Date**	: 10/23/19 07:41		
Lab File ID	: V23191023A01	**Init. Calib. Date(s)**	: 06/21/19	06/21/19	
Sample No	: WG1299733-2	**Init. Calib. Times**	: 03:09	06:33	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.236	-	7.1	20	75	-.02
2-Chloroethyl vinyl ether	0.185	0.172	-	7	20	73	-.02
Bromodichloromethane	0.327	0.338	-	-3.4	20	80	-.02
1,4-Dioxane	0.00343	0.00287*	-	16.3	20	66	-.02
cis-1,3-Dichloropropene	0.404	0.381	-	5.7	20	73	-.02
Chlorobenzene-d5	1	1	-	0	20	83	-.02
Toluene-d8	1.211	1.05	-	13.3	20	72	-.02
Toluene	0.75	0.696	-	7.2	20	78	-.02
4-Methyl-2-pentanone	0.137	0.142	-	-3.6	20	86	-.02
Tetrachloroethene	0.306	0.324	-	-5.9	20	85	-.02
trans-1,3-Dichloropropene	0.447	0.476	-	-6.5	20	85	-.02
Ethyl methacrylate	0.415	0.415	-	0	20	81	-.02
1,1,2-Trichloroethane	0.237	0.241	-	-1.7	20	84	-.02
Chlorodibromomethane	0.311	0.345	-	-10.9	20	88	-.02
1,3-Dichloropropane	0.475	0.484	-	-1.9	20	84	-.02
1,2-Dibromoethane	0.286	0.3	-	-4.9	20	86	-.02
2-Hexanone	0.245	0.284	-	-15.9	20	99	-.02
Chlorobenzene	0.845	0.911	-	-7.8	20	89	-.02
Ethylbenzene	1.401	1.543	-	-10.1	20	91	-.02
1,1,1,2-Tetrachloroethane	0.297	0.33	-	-11.1	20	88	-.02
p/m Xylene	0.545	0.598	-	-9.7	20	89	-.02
o Xylene	0.539	0.558	-	-3.5	20	84	-.02
Styrene	0.876	0.97	-	-10.7	20	87	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	80	-.01
Bromoform	0.424	0.43	-	-1.4	20	85	-.02
Isopropylbenzene	2.578	2.87	-	-11.3	20	87	-.02
4-Bromofluorobenzene	0.913	0.757	-	17.1	20	67	-.02
Bromobenzene	0.679	0.612	-	9.9	20	72	-.02
n-Propylbenzene	3.032	2.961	-	2.3	20	76	-.02
1,4-Dichlorobutane	0.91	0.858	-	5.7	20	77	-.02
1,1,2,2-Tetrachloroethane	0.726	0.629	-	13.4	20	67	-.02
4-Ethyltoluene	2.552	2.707	-	-6.1	20	83	-.02
2-Chlorotoluene	2.106	2.195	-	-4.2	20	83	-.02
1,3,5-Trimethylbenzene	2.162	2.35	-	-8.7	20	85	-.02
1,2,3-Trichloropropane	0.612	0.584	-	4.6	20	78	-.02
trans-1,4-Dichloro-2-buten	0.212	0.236	-	-11.3	20	88	-.02
4-Chlorotoluene	1.897	2.129	-	-12.2	20	90	-.02
tert-Butylbenzene	1.876	2.125	-	-13.3	20	89	-.02
1,2,4-Trimethylbenzene	2.172	2.512	-	-15.7	20	91	-.02
sec-Butylbenzene	2.799	3.262	-	-16.5	20	90	-.02
p-Isopropyltoluene	2.388	2.824	-	-18.3	20	92	-.02
1,3-Dichlorobenzene	1.306	1.466	-	-12.3	20	89	-.01
1,4-Dichlorobenzene	1.32	1.452	-	-10	20	88	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA123		**Calibration Date**	: 10/23/19 07:41	
Lab File ID	: V23191023A01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1299733-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.795	-	-22.4*	20	96	-.02
n-Butylbenzene	2.231	2.733	-	-22.5*	20	95	-.02
1,2-Dichlorobenzene	1.255	1.376	-	-9.6	20	87	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.818	-	-21.2*	20	94	-.02
1,2-Dibromo-3-chloropropan	0.136	0.131	-	3.7	20	75	-.02
1,3,5-Trichlorobenzene	0.913	1.106	-	-21.1*	20	95	-.02
Hexachlorobutadiene	0.428	0.476	-	-11.2	20	87	-.01
1,2,4-Trichlorobenzene	0.862	0.971	-	-12.6	20	88	-.01
Naphthalene	2.486	2.532	-	-1.9	20	80	-.02
1,2,3-Trichlorobenzene	0.842	0.894	-	-6.2	20	83	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1949294		
Project Name	: LSP WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA123	**Calibration Date**	: 10/23/19 07:41		
Lab File ID	: V23191023A01	**Init. Calib. Date(s)**	: 06/21/19	06/21/19	
Sample No	: WG1299735-2	**Init. Calib. Times**	: 03:09	06:33	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	81	-.02
Dichlorodifluoromethane	0.268	0.149	-	44.4*	20	43	0
Chloromethane	0.275	0.233	-	15.3	20	69	0
Vinyl chloride	0.312	0.235	-	24.7*	20	59	0
Bromomethane	0.233	0.201	-	13.7	20	77	0
Chloroethane	0.235	0.189	-	19.6	20	66	0
Trichlorofluoromethane	0.429	0.375	-	12.6	20	68	0
Ethyl ether	0.143	0.123	-	14	20	70	0
1,1-Dichloroethene	0.214	0.183	-	14.5	20	68	0
Carbon disulfide	0.725	0.573	-	21*	20	65	0
Freon-113	0.216	0.178	-	17.6	20	64	0
Acrolein	0.05	0.048*	-	4	20	83	-.01
Methylene chloride	0.28	0.221	-	21.1*	20	71	-.01
Acetone	40	42.024	-	-5.1	20	86	-.02
trans-1,2-Dichloroethene	0.245	0.222	-	9.4	20	73	0
Methyl acetate	0.187	0.205	-	-9.6	20	91	-.02
Methyl tert-butyl ether	0.725	0.632	-	12.8	20	70	-.01
tert-Butyl alcohol	0.038	0.034*	-	10.5	20	74	-.02
Diisopropyl ether	0.748	0.823	-	-10	20	89	-.02
1,1-Dichloroethane	0.436	0.406	-	6.9	20	75	-.01
Halothane	0.182	0.179	-	1.6	20	77	-.01
Acrylonitrile	0.093	0.093	-	0	20	81	-.02
Ethyl tert-butyl ether	0.763	0.743	-	2.6	20	79	-.02
Vinyl acetate	0.662	0.608	-	8.2	20	75	-.02
cis-1,2-Dichloroethene	0.275	0.25	-	9.1	20	73	-.01
2,2-Dichloropropane	0.366	0.35	-	4.4	20	76	-.02
Bromochloromethane	0.134	0.127	-	5.2	20	76	-.01
Cyclohexane	0.39	0.359	-	7.9	20	74	-.01
Chloroform	0.43	0.407	-	5.3	20	76	-.01
Ethyl acetate	0.3	0.319	-	-6.3	20	90	-.02
Carbon tetrachloride	0.331	0.33	-	0.3	20	78	-.01
Tetrahydrofuran	0.106	0.116	-	-9.4	20	92	-.02
Dibromofluoromethane	0.262	0.253	-	3.4	20	77	-.01
1,1,1-Trichloroethane	0.365	0.376	-	-3	20	80	-.02
2-Butanone	0.139	0.143	-	-2.9	20	94	-.02
1,1-Dichloropropene	0.318	0.31	-	2.5	20	75	-.01
Benzene	0.959	0.954	-	0.5	20	80	-.01
tert-Amyl methyl ether	0.734	0.721	-	1.8	20	79	-.02
1,2-Dichloroethane-d4	0.29	0.293	-	-1	20	84	-.02
1,2-Dichloroethane	0.342	0.348	-	-1.8	20	83	-.02
Methyl cyclohexane	0.415	0.345	-	16.9	20	66	-.02
Trichloroethene	0.249	0.241	-	3.2	20	77	-.02
Dibromomethane	0.164	0.152	-	7.3	20	75	-.02

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1949294		
Project Name	: LSP WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA123	**Calibration Date**	: 10/23/19 07:41		
Lab File ID	: V23191023A01	**Init. Calib. Date(s)**	: 06/21/19	06/21/19	
Sample No	: WG1299735-2	**Init. Calib. Times**	: 03:09	06:33	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.236	-	7.1	20	75	-.02
2-Chloroethyl vinyl ether	0.185	0.172	-	7	20	73	-.02
Bromodichloromethane	0.327	0.338	-	-3.4	20	80	-.02
1,4-Dioxane	0.00343	0.00287*	-	16.3	20	66	-.02
cis-1,3-Dichloropropene	0.404	0.381	-	5.7	20	73	-.02
Chlorobenzene-d5	1	1	-	0	20	83	-.02
Toluene-d8	1.211	1.05	-	13.3	20	72	-.02
Toluene	0.75	0.696	-	7.2	20	78	-.02
4-Methyl-2-pentanone	0.137	0.142	-	-3.6	20	86	-.02
Tetrachloroethene	0.306	0.324	-	-5.9	20	85	-.02
trans-1,3-Dichloropropene	0.447	0.476	-	-6.5	20	85	-.02
Ethyl methacrylate	0.415	0.415	-	0	20	81	-.02
1,1,2-Trichloroethane	0.237	0.241	-	-1.7	20	84	-.02
Chlorodibromomethane	0.311	0.345	-	-10.9	20	88	-.02
1,3-Dichloropropane	0.475	0.484	-	-1.9	20	84	-.02
1,2-Dibromoethane	0.286	0.3	-	-4.9	20	86	-.02
2-Hexanone	0.245	0.284	-	-15.9	20	99	-.02
Chlorobenzene	0.845	0.911	-	-7.8	20	89	-.02
Ethylbenzene	1.401	1.543	-	-10.1	20	91	-.02
1,1,1,2-Tetrachloroethane	0.297	0.33	-	-11.1	20	88	-.02
p/m Xylene	0.545	0.598	-	-9.7	20	89	-.02
o Xylene	0.539	0.558	-	-3.5	20	84	-.02
Styrene	0.876	0.97	-	-10.7	20	87	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	80	-.01
Bromoform	0.424	0.43	-	-1.4	20	85	-.02
Isopropylbenzene	2.578	2.87	-	-11.3	20	87	-.02
4-Bromofluorobenzene	0.913	0.757	-	17.1	20	67	-.02
Bromobenzene	0.679	0.612	-	9.9	20	72	-.02
n-Propylbenzene	3.032	2.961	-	2.3	20	76	-.02
1,4-Dichlorobutane	0.91	0.858	-	5.7	20	77	-.02
1,1,2,2-Tetrachloroethane	0.726	0.629	-	13.4	20	67	-.02
4-Ethyltoluene	2.552	2.707	-	-6.1	20	83	-.02
2-Chlorotoluene	2.106	2.195	-	-4.2	20	83	-.02
1,3,5-Trimethylbenzene	2.162	2.35	-	-8.7	20	85	-.02
1,2,3-Trichloropropane	0.612	0.584	-	4.6	20	78	-.02
trans-1,4-Dichloro-2-buten	0.212	0.236	-	-11.3	20	88	-.02
4-Chlorotoluene	1.897	2.129	-	-12.2	20	90	-.02
tert-Butylbenzene	1.876	2.125	-	-13.3	20	89	-.02
1,2,4-Trimethylbenzene	2.172	2.512	-	-15.7	20	91	-.02
sec-Butylbenzene	2.799	3.262	-	-16.5	20	90	-.02
p-Isopropyltoluene	2.388	2.824	-	-18.3	20	92	-.02
1,3-Dichlorobenzene	1.306	1.466	-	-12.3	20	89	-.01
1,4-Dichlorobenzene	1.32	1.452	-	-10	20	88	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1949294	
Project Name	: LSP WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA123		**Calibration Date**	: 10/23/19 07:41	
Lab File ID	: V23191023A01		**Init. Calib. Date(s)**	: 06/21/19	06/21/19
Sample No	: WG1299735-2		**Init. Calib. Times**	: 03:09	06:33
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.795	-	-22.4*	20	96	-.02
n-Butylbenzene	2.231	2.733	-	-22.5*	20	95	-.02
1,2-Dichlorobenzene	1.255	1.376	-	-9.6	20	87	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.818	-	-21.2*	20	94	-.02
1,2-Dibromo-3-chloropropan	0.136	0.131	-	3.7	20	75	-.02
1,3,5-Trichlorobenzene	0.913	1.106	-	-21.1*	20	95	-.02
Hexachlorobutadiene	0.428	0.476	-	-11.2	20	87	-.01
1,2,4-Trichlorobenzene	0.862	0.971	-	-12.6	20	88	-.01
Naphthalene	2.486	2.532	-	-1.9	20	80	-.02
1,2,3-Trichlorobenzene	0.842	0.894	-	-6.2	20	83	-.01

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L1952035
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	LSP; WASHINGTON ST PHASE 2
Project Number:	310142.0002.0000
Report Date:	11/07/19

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1952035-01	GLX-TPW-606 (0-2)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:00	11/02/19
L1952035-02	GLX-TPW-606 (1)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:00	11/02/19
L1952035-03	GLX-TPW-606 (2-5)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:05	11/02/19
L1952035-04	GLX-TPW-606 (4)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:05	11/02/19
L1952035-05	GLX-TPW-608 (0-2)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:15	11/02/19
L1952035-06	GLX-TPW-608 (1)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:15	11/02/19
L1952035-07	GLX-TPW-608 (2-5)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:20	11/02/19
L1952035-08	GLX-TPW-608 (4)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:20	11/02/19
L1952035-09	GLX-TPW-609 (0-2)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:30	11/02/19
L1952035-10	GLX-TPW-609 (1)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:30	11/02/19
L1952035-11	GLX-TPW-609 (2-5)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:35	11/02/19
L1952035-12	GLX-TPW-609 (4)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 08:35	11/02/19
L1952035-13	GLX-TPW-610 (0-2)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 09:05	11/02/19
L1952035-14	GLX-TPW-610 (1)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 09:05	11/02/19
L1952035-15	GLX-TPW-610 (2-5)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 09:10	11/02/19
L1952035-16	GLX-TPW-610 (3)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 09:10	11/02/19
L1952035-17	GLX-TPW-610 (5-8)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 09:15	11/02/19
L1952035-18	GLX-TPW-610 (7)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 09:15	11/02/19
L1952035-19	GLC-C14(A)-DC-COMP	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 10:15	11/02/19
L1952035-20	GLC-C14(A)-DC-VOC (10)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 10:15	11/02/19
L1952035-21	GLC-C14(B)-DC-(6-10)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 10:30	11/02/19
L1952035-22	GLC-C14(B)-DC-COMP	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 10:45	11/02/19
L1952035-23	GLC-C14(B)-DC-VOC (12)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 10:45	11/02/19
L1952035-24	GLC-C13(A)-DC-COMP	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 11:10	11/02/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1952035-25	GLC-C13(A)-DC-VOC (9)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 11:10	11/02/19
L1952035-26	GLC-C13(B)-DC-COMP	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 11:35	11/02/19
L1952035-27	GLC-C13(B)-DC-VOC (9)	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/02/19 11:35	11/02/19

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	LSP; WASHINGTON ST PHASE 2	**Lab Number:**	L1952035
Project Number:	310142.0002.0000	**Report Date:**	11/07/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	LSP; WASHINGTON ST PHASE 2	**Lab Number:**	L1952035
Project Number:	310142.0002.0000	**Report Date:**	11/07/19

Case Narrative (continued)

Report Submission

November 07, 2019: This final report includes the results of all requested analyses.

November 06, 2019: This is a preliminary report.

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

In reference to question H:

L1952035-10: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (41%) was outside the acceptance criteria; however, re-analysis achieved a similar result: 1,4-dichlorobenzene-d4 (34%) and a high surrogate recovery for 4-bromofluorobenzene (144%). The results of both analyses are reported; however, since the IS response was below method criteria, all associated compounds and surrogate recoveries are considered to have a potentially high bias.

L1952035-14: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (48%) was below the acceptance criteria; however, re-analysis achieved a similar result: 1,4-dichlorobenzene-d4 (41%). The results of both analyses are reported; however, since the IS response was below method criteria (but not <20% of applicable calibration standard area counts), all associated compounds are considered to have a potentially high bias.

L1952035-23: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (47%) was below the acceptance criteria; however, re-analysis achieved a similar result: 1,4-dichlorobenzene-d4 (43%). The results of both analyses are reported; however, since the IS response was below method criteria (but not <20% of applicable calibration standard area counts), all associated compounds are considered to have a potentially high bias.

L1952035-25: The result for Acetone should be considered estimated, and is qualified with an E flag, for the

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Case Narrative (continued)

result that exceeded the calibration range in the initial analysis.

L1952035-25: The internal standard (IS) responses for chlorobenzene-d5 (49%) and 1,4-dichlorobenzene-d4 (35%) were outside the acceptance criteria; however, re-analysis achieved similar results: chlorobenzene-d5 (31%) and 1,4-dichlorobenzene-d4 (12%), and high surrogate recoveries for toluene-d8 (140%) and 4-bromofluorobenzene (160%). The results of both analyses are reported; however, since the IS response was below method criteria, all associated compounds and surrogate recoveries are considered to have a potentially high bias.

L1952035-27: The internal standard (IS) responses for fluorobenzene (47%), chlorobenzene-d5 (25%), and 1,4-dichlorobenzene-d4 (10%), and the surrogate recoveries for toluene-d8 (138%) and 4-bromofluorobenzene (156%) were outside the acceptance criteria; however, re-analysis achieved similar results: chlorobenzene-d5 (24%), 1,4-dichlorobenzene-d4 (7%), toluene-d8 (155%), and 4-bromofluorobenzene (187%). The results of both analyses are reported; however, since the IS response was below the method criteria, all associated compounds and surrogate recoveries are considered to have a potentially high bias. In addition, because the internal standard responses were below the rejection criteria at less than 20% recovery, a high-level analysis was performed and those results are also reported.

The WG1304637-3/-4 LCS/LCSD recoveries, associated with L1952035-04, -06, -08, -10, -16, -18, -20, -23, -25, and -27, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for bromomethane (67%/66%), chloroethane (60%/60%), and dichlorodifluoromethane (62%/63%); and a potentially high bias for acetone (146%/142%), tetrahydrofuran (LCS 131%), and diisopropyl ether (136%/139%).

The initial calibration, associated with L1952035-02, -10, -23, -25, and -27, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0920), 4-methyl-2-pentanone (0.0767), and 1,4-dioxane (0.0017), as well as the average response factor for trichloroethene, 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane. In addition, the initial calibration verification is outside acceptance criteria for trichlorofluoromethane (140%), bromomethane (158%), vinyl chloride (144%), chloroethane (131%), and dichlorodifluoromethane (186%).

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The initial calibration, associated with L1952035-04, -06, -08, -10, -16, -18, -20, -23, -25, and -27, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0034), as well as the average response factor for 1,4-dioxane.
The initial calibration, associated with L1952035-12, -14, and-27, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0721), 4-methyl-2-pentanone (0.0596), 2-hexanone (0.0975), and 1,4-dioxane (0.0016), as well as the average response factor for 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane.
The continuing calibration standards, associated with L1952035-02, -04, -06, -08, -10, -12, -14, -16, -18, -20, -23, -25, and -27, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

Semivolatile Organics
In reference to question H:
The WG1304951-2/-3 LCS/LCSD recoveries, associated with L1952035-19, -22, and -26, are below the individual acceptance criteria for 2,4-dinitrophenol (17%/12%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound. The LCS/LCSD RPD is above the acceptance criteria for 2,4-dinitrophenol (34%).

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 11/07/19

QC OUTLIER SUMMARY REPORT

Project Name: LSP; WASHINGTON ST PHASE 2
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Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	GLX-TPW-609 (1)	L1952035-10 R	4-Bromofluorobenzene	Surrogate	144	70-130	-	potential high bias
8260C	GLC-C13(A)-DC-VOC (9)	L1952035-25 R	Toluene-d8	Surrogate	140	70-130	-	potential high bias
8260C	GLC-C13(A)-DC-VOC (9)	L1952035-25 R	4-Bromofluorobenzene	Surrogate	160	70-130	-	potential high bias
8260C	GLC-C13(B)-DC-VOC (9)	L1952035-27	Toluene-d8	Surrogate	138	70-130	-	potential high bias
8260C	GLC-C13(B)-DC-VOC (9)	L1952035-27	4-Bromofluorobenzene	Surrogate	156	70-130	-	potential high bias
8260C	GLC-C13(B)-DC-VOC (9)	L1952035-27 R	Toluene-d8	Surrogate	155	70-130	-	potential high bias
8260C	GLC-C13(B)-DC-VOC (9)	L1952035-27 R	4-Bromofluorobenzene	Surrogate	187	70-130	-	potential high bias
8260C	Batch QC	WG1304637-3	Bromomethane	LCS	67	70-130	04,06,08,10, 16,18,20,23, 25,27	potential low bias
8260C	Batch QC	WG1304637-3	Chloroethane	LCS	60	70-130	04,06,08,10, 16,18,20,23, 25,27	potential low bias
8260C	Batch QC	WG1304637-3	Dichlorodifluoromethane	LCS	62	70-130	04,06,08,10, 16,18,20,23, 25,27	potential low bias
8260C	Batch QC	WG1304637-3	Acetone	LCS	146	70-130	04,06,08,10, 16,18,20,23, 25,27	potential high bias
8260C	Batch QC	WG1304637-3	Tetrahydrofuran	LCS	131	70-130	04,06,08,10, 16,18,20,23, 25,27	potential high bias
8260C	Batch QC	WG1304637-3	Diisopropyl Ether	LCS	136	70-130	04,06,08,10, 16,18,20,23, 25,27	potential high bias
8260C	Batch QC	WG1304637-4	Bromomethane	LCSD	66	70-130	04,06,08,10, 16,18,20,23, 25,27	potential low bias
8260C	Batch QC	WG1304637-4	Chloroethane	LCSD	60	70-130	04,06,08,10, 16,18,20,23, 25,27	potential low bias
8260C	Batch QC	WG1304637-4	Dichlorodifluoromethane	LCSD	63	70-130	04,06,08,10, 16,18,20,23, 25,27	potential low bias
8260C	Batch QC	WG1304637-4	Acetone	LCSD	142	70-130	04,06,08,10, 16,18,20,23, 25,27	potential high bias

QC OUTLIER SUMMARY REPORT

Project Name: LSP; WASHINGTON ST PHASE 2
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Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
8260C	Batch QC	WG1304637-4	Diisopropyl Ether	LCSD	139	70-130	04,06,08,10, 16,18,20,23, 25,27	potential high bias
MCP Semivolatile Organics - Westborough Lab								
8270D	Batch QC	WG1304951-2	2,4-Dinitrophenol	LCS	17	30-130	19,22,26	potential low bias
8270D	Batch QC	WG1304951-3	2,4-Dinitrophenol	LCSD	12	30-130	19,22,26	potential low bias
8270D	Batch QC	WG1304951-3	2,4-Dinitrophenol	LCSD	34	30	19,22,26	non-directional bias

ORGANICS

VOLATILES

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-02
Client ID: GLX-TPW-606 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 08:00
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/05/19 18:12
Analyst: NLK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.0	--	1
1,1-Dichloroethane	ND		ug/kg	0.80	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.80	--	1
1,2-Dichloropropane	ND		ug/kg	0.80	--	1
Dibromochloromethane	ND		ug/kg	0.80	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.80	--	1
Tetrachloroethene	ND		ug/kg	0.40	--	1
Chlorobenzene	ND		ug/kg	0.40	--	1
Trichlorofluoromethane	ND		ug/kg	3.2	--	1
1,2-Dichloroethane	ND		ug/kg	0.80	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.40	--	1
Bromodichloromethane	ND		ug/kg	0.40	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.80	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.40	--	1
1,1-Dichloropropene	ND		ug/kg	0.40	--	1
Bromoform	ND		ug/kg	3.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.40	--	1
Benzene	ND		ug/kg	0.40	--	1
Toluene	ND		ug/kg	0.80	--	1
Ethylbenzene	ND		ug/kg	0.80	--	1
Chloromethane	ND		ug/kg	3.2	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.80	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.80	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-02 Date Collected: 11/02/19 08:00

Client ID: GLX-TPW-606 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.40	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.80	--	1
Xylenes, Total	ND		ug/kg	0.80	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.80	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.80	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.80	--	1
Dichlorodifluoromethane	ND		ug/kg	8.0	--	1
Acetone	43		ug/kg	20	--	1
Carbon disulfide	ND		ug/kg	8.0	--	1
Methyl ethyl ketone	ND		ug/kg	8.0	--	1
Methyl isobutyl ketone	ND		ug/kg	8.0	--	1
2-Hexanone	ND		ug/kg	8.0	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.2	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.80	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.40	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.80	--	1
sec-Butylbenzene	ND		ug/kg	0.80	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.4	--	1
Hexachlorobutadiene	ND		ug/kg	3.2	--	1
Isopropylbenzene	ND		ug/kg	0.80	--	1
p-Isopropyltoluene	ND		ug/kg	0.80	--	1
Naphthalene	ND		ug/kg	3.2	--	1
n-Propylbenzene	ND		ug/kg	0.80	--	1

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SAMPLE RESULTS

Lab ID: L1952035-02 Date Collected: 11/02/19 08:00

Client ID: GLX-TPW-606 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	64	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	87		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-04
Client ID: GLX-TPW-606 (4)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 08:05
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/05/19 00:55
Analyst: NLK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	2.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.48	--	1
Chloroform	ND		ug/kg	0.72	--	1
Carbon tetrachloride	ND		ug/kg	0.48	--	1
1,2-Dichloropropane	ND		ug/kg	0.48	--	1
Dibromochloromethane	ND		ug/kg	0.48	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.48	--	1
Tetrachloroethene	ND		ug/kg	0.24	--	1
Chlorobenzene	ND		ug/kg	0.24	--	1
Trichlorofluoromethane	ND		ug/kg	1.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.48	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.24	--	1
Bromodichloromethane	ND		ug/kg	0.24	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.48	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.24	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.24	--	1
1,1-Dichloropropene	ND		ug/kg	0.24	--	1
Bromoform	ND		ug/kg	1.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.24	--	1
Benzene	ND		ug/kg	0.24	--	1
Toluene	ND		ug/kg	0.48	--	1
Ethylbenzene	ND		ug/kg	0.48	--	1
Chloromethane	ND		ug/kg	1.9	--	1
Bromomethane	ND		ug/kg	0.96	--	1
Vinyl chloride	ND		ug/kg	0.48	--	1
Chloroethane	ND		ug/kg	0.96	--	1
1,1-Dichloroethene	ND		ug/kg	0.48	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.72	--	1

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SAMPLE RESULTS

Lab ID: L1952035-04 Date Collected: 11/02/19 08:05

Client ID: GLX-TPW-606 (4) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.24	--	1
1,2-Dichlorobenzene	ND		ug/kg	0.96	--	1
1,3-Dichlorobenzene	ND		ug/kg	0.96	--	1
1,4-Dichlorobenzene	ND		ug/kg	0.96	--	1
Methyl tert butyl ether	ND		ug/kg	0.96	--	1
p/m-Xylene	ND		ug/kg	0.96	--	1
o-Xylene	ND		ug/kg	0.48	--	1
Xylenes, Total	ND		ug/kg	0.48	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.48	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.48	--	1
Dibromomethane	ND		ug/kg	0.96	--	1
1,2,3-Trichloropropane	ND		ug/kg	0.96	--	1
Styrene	ND		ug/kg	0.48	--	1
Dichlorodifluoromethane	ND		ug/kg	4.8	--	1
Acetone	16		ug/kg	12	--	1
Carbon disulfide	ND		ug/kg	4.8	--	1
Methyl ethyl ketone	ND		ug/kg	4.8	--	1
Methyl isobutyl ketone	ND		ug/kg	4.8	--	1
2-Hexanone	ND		ug/kg	4.8	--	1
Bromochloromethane	ND		ug/kg	0.96	--	1
Tetrahydrofuran	ND		ug/kg	1.9	--	1
2,2-Dichloropropane	ND		ug/kg	0.96	--	1
1,2-Dibromoethane	ND		ug/kg	0.48	--	1
1,3-Dichloropropane	ND		ug/kg	0.96	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.24	--	1
Bromobenzene	ND		ug/kg	0.96	--	1
n-Butylbenzene	ND		ug/kg	0.48	--	1
sec-Butylbenzene	ND		ug/kg	0.48	--	1
tert-Butylbenzene	ND		ug/kg	0.96	--	1
o-Chlorotoluene	ND		ug/kg	0.96	--	1
p-Chlorotoluene	ND		ug/kg	0.96	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.4	--	1
Hexachlorobutadiene	ND		ug/kg	1.9	--	1
Isopropylbenzene	ND		ug/kg	0.48	--	1
p-Isopropyltoluene	ND		ug/kg	0.48	--	1
Naphthalene	ND		ug/kg	1.9	--	1
n-Propylbenzene	ND		ug/kg	0.48	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

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SAMPLE RESULTS

Lab ID: L1952035-04 Date Collected: 11/02/19 08:05

Client ID: GLX-TPW-606 (4) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	0.96	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	0.96	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	0.96	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	0.96	--	1
Diethyl ether	ND		ug/kg	0.96	--	1
Diisopropyl Ether	ND		ug/kg	0.96	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	0.96	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	0.96	--	1
1,4-Dioxane	ND		ug/kg	38	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	105		70-130

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SAMPLE RESULTS

Lab ID: L1952035-06
Client ID: GLX-TPW-608 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 08:15
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/05/19 01:19
Analyst: NLK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.5	--	1
1,1-Dichloroethane	ND		ug/kg	0.71	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.71	--	1
1,2-Dichloropropane	ND		ug/kg	0.71	--	1
Dibromochloromethane	ND		ug/kg	0.71	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.71	--	1
Tetrachloroethene	ND		ug/kg	0.35	--	1
Chlorobenzene	ND		ug/kg	0.35	--	1
Trichlorofluoromethane	ND		ug/kg	2.8	--	1
1,2-Dichloroethane	ND		ug/kg	0.71	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.35	--	1
Bromodichloromethane	ND		ug/kg	0.35	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.71	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.35	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.35	--	1
1,1-Dichloropropene	ND		ug/kg	0.35	--	1
Bromoform	ND		ug/kg	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.35	--	1
Benzene	ND		ug/kg	0.35	--	1
Toluene	ND		ug/kg	0.71	--	1
Ethylbenzene	ND		ug/kg	0.71	--	1
Chloromethane	ND		ug/kg	2.8	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.71	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.71	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-06 Date Collected: 11/02/19 08:15

Client ID: GLX-TPW-608 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.35	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.71	--	1
Xylenes, Total	ND		ug/kg	0.71	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.71	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.71	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.71	--	1
Dichlorodifluoromethane	ND		ug/kg	7.1	--	1
Acetone	20		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	7.1	--	1
Methyl ethyl ketone	ND		ug/kg	7.1	--	1
Methyl isobutyl ketone	ND		ug/kg	7.1	--	1
2-Hexanone	ND		ug/kg	7.1	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.8	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.71	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.35	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.71	--	1
sec-Butylbenzene	ND		ug/kg	0.71	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.8	--	1
Isopropylbenzene	ND		ug/kg	0.71	--	1
p-Isopropyltoluene	ND		ug/kg	0.71	--	1
Naphthalene	ND		ug/kg	2.8	--	1
n-Propylbenzene	ND		ug/kg	0.71	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-06 Date Collected: 11/02/19 08:15

Client ID: GLX-TPW-608 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	57	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	103		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-08
Client ID: GLX-TPW-608 (4)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 08:20
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/04/19 21:42
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.94	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.94	--	1
1,2-Dichloropropane	ND		ug/kg	0.94	--	1
Dibromochloromethane	ND		ug/kg	0.94	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.94	--	1
Tetrachloroethene	ND		ug/kg	0.47	--	1
Chlorobenzene	ND		ug/kg	0.47	--	1
Trichlorofluoromethane	ND		ug/kg	3.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.94	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.47	--	1
Bromodichloromethane	ND		ug/kg	0.47	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.94	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.47	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.47	--	1
1,1-Dichloropropene	ND		ug/kg	0.47	--	1
Bromoform	ND		ug/kg	3.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.47	--	1
Benzene	ND		ug/kg	0.47	--	1
Toluene	ND		ug/kg	0.94	--	1
Ethylbenzene	ND		ug/kg	0.94	--	1
Chloromethane	ND		ug/kg	3.7	--	1
Bromomethane	ND		ug/kg	1.9	--	1
Vinyl chloride	ND		ug/kg	0.94	--	1
Chloroethane	ND		ug/kg	1.9	--	1
1,1-Dichloroethene	ND		ug/kg	0.94	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-08 Date Collected: 11/02/19 08:20

Client ID: GLX-TPW-608 (4) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.47	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	--	1
Methyl tert butyl ether	ND		ug/kg	1.9	--	1
p/m-Xylene	ND		ug/kg	1.9	--	1
o-Xylene	ND		ug/kg	0.94	--	1
Xylenes, Total	ND		ug/kg	0.94	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.94	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.94	--	1
Dibromomethane	ND		ug/kg	1.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	--	1
Styrene	ND		ug/kg	0.94	--	1
Dichlorodifluoromethane	ND		ug/kg	9.4	--	1
Acetone	53		ug/kg	23	--	1
Carbon disulfide	ND		ug/kg	9.4	--	1
Methyl ethyl ketone	ND		ug/kg	9.4	--	1
Methyl isobutyl ketone	ND		ug/kg	9.4	--	1
2-Hexanone	ND		ug/kg	9.4	--	1
Bromochloromethane	ND		ug/kg	1.9	--	1
Tetrahydrofuran	ND		ug/kg	3.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.9	--	1
1,2-Dibromoethane	ND		ug/kg	0.94	--	1
1,3-Dichloropropane	ND		ug/kg	1.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.47	--	1
Bromobenzene	ND		ug/kg	1.9	--	1
n-Butylbenzene	ND		ug/kg	0.94	--	1
sec-Butylbenzene	ND		ug/kg	0.94	--	1
tert-Butylbenzene	ND		ug/kg	1.9	--	1
o-Chlorotoluene	ND		ug/kg	1.9	--	1
p-Chlorotoluene	ND		ug/kg	1.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.8	--	1
Hexachlorobutadiene	ND		ug/kg	3.7	--	1
Isopropylbenzene	ND		ug/kg	0.94	--	1
p-Isopropyltoluene	ND		ug/kg	0.94	--	1
Naphthalene	ND		ug/kg	3.7	--	1
n-Propylbenzene	ND		ug/kg	0.94	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-08 Date Collected: 11/02/19 08:20

Client ID: GLX-TPW-608 (4) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	--	1
Diethyl ether	ND		ug/kg	1.9	--	1
Diisopropyl Ether	ND		ug/kg	1.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.9	--	1
1,4-Dioxane	ND		ug/kg	75	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	101		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-10 Date Collected: 11/02/19 08:30

Client ID: GLX-TPW-609 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 97,8260C

Analytical Date: 11/04/19 22:06

Analyst: NLK

Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.69	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.69	--	1
1,2-Dichloropropane	ND		ug/kg	0.69	--	1
Dibromochloromethane	ND		ug/kg	0.69	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.69	--	1
Tetrachloroethene	ND		ug/kg	0.34	--	1
Chlorobenzene	ND		ug/kg	0.34	--	1
Trichlorofluoromethane	ND		ug/kg	2.7	--	1
1,2-Dichloroethane	ND		ug/kg	0.69	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.34	--	1
Bromodichloromethane	ND		ug/kg	0.34	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.69	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.34	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.34	--	1
1,1-Dichloropropene	ND		ug/kg	0.34	--	1
Bromoform	ND		ug/kg	2.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Benzene	ND		ug/kg	0.34	--	1
Toluene	ND		ug/kg	0.69	--	1
Ethylbenzene	ND		ug/kg	0.69	--	1
Chloromethane	ND		ug/kg	2.7	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	0.69	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.69	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-10 Date Collected: 11/02/19 08:30

Client ID: GLX-TPW-609 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.34	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	0.69	--	1
Xylenes, Total	ND		ug/kg	0.69	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.69	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.69	--	1
Dibromomethane	ND		ug/kg	1.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.4	--	1
Styrene	ND		ug/kg	0.69	--	1
Dichlorodifluoromethane	ND		ug/kg	6.9	--	1
Acetone	70		ug/kg	17	--	1
Carbon disulfide	ND		ug/kg	6.9	--	1
Methyl ethyl ketone	ND		ug/kg	6.9	--	1
Methyl isobutyl ketone	ND		ug/kg	6.9	--	1
2-Hexanone	ND		ug/kg	6.9	--	1
Bromochloromethane	ND		ug/kg	1.4	--	1
Tetrahydrofuran	ND		ug/kg	2.7	--	1
2,2-Dichloropropane	ND		ug/kg	1.4	--	1
1,2-Dibromoethane	ND		ug/kg	0.69	--	1
1,3-Dichloropropane	ND		ug/kg	1.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.34	--	1
Bromobenzene	ND		ug/kg	1.4	--	1
n-Butylbenzene	ND		ug/kg	0.69	--	1
sec-Butylbenzene	ND		ug/kg	0.69	--	1
tert-Butylbenzene	ND		ug/kg	1.4	--	1
o-Chlorotoluene	ND		ug/kg	1.4	--	1
p-Chlorotoluene	ND		ug/kg	1.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.1	--	1
Hexachlorobutadiene	ND		ug/kg	2.7	--	1
Isopropylbenzene	ND		ug/kg	0.69	--	1
p-Isopropyltoluene	ND		ug/kg	0.69	--	1
Naphthalene	ND		ug/kg	2.7	--	1
n-Propylbenzene	ND		ug/kg	0.69	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-10 Date Collected: 11/02/19 08:30

Client ID: GLX-TPW-609 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.4	--	1
Diethyl ether	ND		ug/kg	1.4	--	1
Diisopropyl Ether	ND		ug/kg	1.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.4	--	1
1,4-Dioxane	ND		ug/kg	55	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	128		70-130
Dibromofluoromethane	107		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-10 R
Client ID: GLX-TPW-609 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 08:30
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/05/19 18:51
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	ND		ug/kg	0.50	--	1
Chlorobenzene	ND		ug/kg	0.50	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	--	1
Bromodichloromethane	ND		ug/kg	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--	1
1,1-Dichloropropene	ND		ug/kg	0.50	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Benzene	ND		ug/kg	0.50	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.0	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-10 R Date Collected: 11/02/19 08:30

Client ID: GLX-TPW-609 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.50	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	42		ug/kg	25	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-10 R
Client ID: GLX-TPW-609 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 08:30
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	**144**	Q	70-130
Dibromofluoromethane	92		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-12
Client ID: GLX-TPW-609 (4)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 08:35
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/07/19 12:28
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.2	--	1
1,1-Dichloroethane	ND		ug/kg	0.64	--	1
Chloroform	ND		ug/kg	0.96	--	1
Carbon tetrachloride	ND		ug/kg	0.64	--	1
1,2-Dichloropropane	ND		ug/kg	0.64	--	1
Dibromochloromethane	ND		ug/kg	0.64	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.64	--	1
Tetrachloroethene	ND		ug/kg	0.32	--	1
Chlorobenzene	ND		ug/kg	0.32	--	1
Trichlorofluoromethane	ND		ug/kg	2.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.64	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.32	--	1
Bromodichloromethane	ND		ug/kg	0.32	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.64	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.32	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.32	--	1
1,1-Dichloropropene	ND		ug/kg	0.32	--	1
Bromoform	ND		ug/kg	2.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.32	--	1
Benzene	ND		ug/kg	0.32	--	1
Toluene	ND		ug/kg	0.64	--	1
Ethylbenzene	ND		ug/kg	0.64	--	1
Chloromethane	ND		ug/kg	2.6	--	1
Bromomethane	ND		ug/kg	1.3	--	1
Vinyl chloride	ND		ug/kg	0.64	--	1
Chloroethane	ND		ug/kg	1.3	--	1
1,1-Dichloroethene	ND		ug/kg	0.64	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.96	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-12 Date Collected: 11/02/19 08:35

Client ID: GLX-TPW-609 (4) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.32	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.3	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.3	--	1
Methyl tert butyl ether	ND		ug/kg	1.3	--	1
p/m-Xylene	ND		ug/kg	1.3	--	1
o-Xylene	ND		ug/kg	0.64	--	1
Xylenes, Total	ND		ug/kg	0.64	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.64	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.64	--	1
Dibromomethane	ND		ug/kg	1.3	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.3	--	1
Styrene	ND		ug/kg	0.64	--	1
Dichlorodifluoromethane	ND		ug/kg	6.4	--	1
Acetone	92		ug/kg	16	--	1
Carbon disulfide	ND		ug/kg	6.4	--	1
Methyl ethyl ketone	ND		ug/kg	6.4	--	1
Methyl isobutyl ketone	ND		ug/kg	6.4	--	1
2-Hexanone	ND		ug/kg	6.4	--	1
Bromochloromethane	ND		ug/kg	1.3	--	1
Tetrahydrofuran	ND		ug/kg	2.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.3	--	1
1,2-Dibromoethane	ND		ug/kg	0.64	--	1
1,3-Dichloropropane	ND		ug/kg	1.3	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.32	--	1
Bromobenzene	ND		ug/kg	1.3	--	1
n-Butylbenzene	ND		ug/kg	0.64	--	1
sec-Butylbenzene	ND		ug/kg	0.64	--	1
tert-Butylbenzene	ND		ug/kg	1.3	--	1
o-Chlorotoluene	ND		ug/kg	1.3	--	1
p-Chlorotoluene	ND		ug/kg	1.3	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.9	--	1
Hexachlorobutadiene	ND		ug/kg	2.6	--	1
Isopropylbenzene	ND		ug/kg	0.64	--	1
p-Isopropyltoluene	ND		ug/kg	0.64	--	1
Naphthalene	ND		ug/kg	2.6	--	1
n-Propylbenzene	ND		ug/kg	0.64	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-12 Date Collected: 11/02/19 08:35

Client ID: GLX-TPW-609 (4) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.3	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.3	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.3	--	1
Diethyl ether	ND		ug/kg	1.3	--	1
Diisopropyl Ether	ND		ug/kg	1.3	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.3	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.3	--	1
1,4-Dioxane	ND		ug/kg	51	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-14
Client ID: GLX-TPW-610 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 09:05
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/07/19 14:34
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.5	--	1
1,1-Dichloroethane	ND		ug/kg	1.3	--	1
Chloroform	ND		ug/kg	1.9	--	1
Carbon tetrachloride	ND		ug/kg	1.3	--	1
1,2-Dichloropropane	ND		ug/kg	1.3	--	1
Dibromochloromethane	ND		ug/kg	1.3	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.3	--	1
Tetrachloroethene	ND		ug/kg	0.65	--	1
Chlorobenzene	ND		ug/kg	0.65	--	1
Trichlorofluoromethane	ND		ug/kg	5.2	--	1
1,2-Dichloroethane	ND		ug/kg	1.3	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.65	--	1
Bromodichloromethane	ND		ug/kg	0.65	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.3	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.65	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.65	--	1
1,1-Dichloropropene	ND		ug/kg	0.65	--	1
Bromoform	ND		ug/kg	5.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.65	--	1
Benzene	ND		ug/kg	0.65	--	1
Toluene	ND		ug/kg	1.3	--	1
Ethylbenzene	ND		ug/kg	1.3	--	1
Chloromethane	ND		ug/kg	5.2	--	1
Bromomethane	ND		ug/kg	2.6	--	1
Vinyl chloride	ND		ug/kg	1.3	--	1
Chloroethane	ND		ug/kg	2.6	--	1
1,1-Dichloroethene	ND		ug/kg	1.3	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-14 Date Collected: 11/02/19 09:05

Client ID: GLX-TPW-610 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.65	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.6	--	1
Methyl tert butyl ether	ND		ug/kg	2.6	--	1
p/m-Xylene	ND		ug/kg	2.6	--	1
o-Xylene	ND		ug/kg	1.3	--	1
Xylenes, Total	ND		ug/kg	1.3	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.3	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.3	--	1
Dibromomethane	ND		ug/kg	2.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.6	--	1
Styrene	ND		ug/kg	1.3	--	1
Dichlorodifluoromethane	ND		ug/kg	13	--	1
Acetone	180		ug/kg	32	--	1
Carbon disulfide	ND		ug/kg	13	--	1
Methyl ethyl ketone	18		ug/kg	13	--	1
Methyl isobutyl ketone	ND		ug/kg	13	--	1
2-Hexanone	ND		ug/kg	13	--	1
Bromochloromethane	ND		ug/kg	2.6	--	1
Tetrahydrofuran	ND		ug/kg	5.2	--	1
2,2-Dichloropropane	ND		ug/kg	2.6	--	1
1,2-Dibromoethane	ND		ug/kg	1.3	--	1
1,3-Dichloropropane	ND		ug/kg	2.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.65	--	1
Bromobenzene	ND		ug/kg	2.6	--	1
n-Butylbenzene	ND		ug/kg	1.3	--	1
sec-Butylbenzene	ND		ug/kg	1.3	--	1
tert-Butylbenzene	ND		ug/kg	2.6	--	1
o-Chlorotoluene	ND		ug/kg	2.6	--	1
p-Chlorotoluene	ND		ug/kg	2.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.9	--	1
Hexachlorobutadiene	ND		ug/kg	5.2	--	1
Isopropylbenzene	ND		ug/kg	1.3	--	1
p-Isopropyltoluene	ND		ug/kg	1.3	--	1
Naphthalene	ND		ug/kg	5.2	--	1
n-Propylbenzene	ND		ug/kg	1.3	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-14 Date Collected: 11/02/19 09:05

Client ID: GLX-TPW-610 (1) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.6	--	1
Diethyl ether	ND		ug/kg	2.6	--	1
Diisopropyl Ether	ND		ug/kg	2.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.6	--	1
1,4-Dioxane	ND		ug/kg	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	100		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-14 R
Client ID: GLX-TPW-610 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 09:05
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/07/19 15:50
Analyst: PK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.76	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.76	--	1
1,2-Dichloropropane	ND		ug/kg	0.76	--	1
Dibromochloromethane	ND		ug/kg	0.76	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	--	1
Tetrachloroethene	ND		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.76	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	ND		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.76	--	1
Ethylbenzene	ND		ug/kg	0.76	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.76	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.76	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-14 R
Client ID: GLX-TPW-610 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 09:05
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.76	--	1
Xylenes, Total	ND		ug/kg	0.76	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.76	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.76	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.76	--	1
Dichlorodifluoromethane	ND		ug/kg	7.6	--	1
Acetone	100		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.6	--	1
Methyl ethyl ketone	9.5		ug/kg	7.6	--	1
Methyl isobutyl ketone	ND		ug/kg	7.6	--	1
2-Hexanone	ND		ug/kg	7.6	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.76	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.76	--	1
sec-Butylbenzene	ND		ug/kg	0.76	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.76	--	1
p-Isopropyltoluene	ND		ug/kg	0.76	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.76	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-14 R
Client ID: GLX-TPW-610 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 09:05
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	61	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	101		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-16 Date Collected: 11/02/19 09:10

Client ID: GLX-TPW-610 (3) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 97,8260C

Analytical Date: 11/04/19 22:30

Analyst: NLK

Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	2.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.48	--	1
Chloroform	ND		ug/kg	0.71	--	1
Carbon tetrachloride	ND		ug/kg	0.48	--	1
1,2-Dichloropropane	ND		ug/kg	0.48	--	1
Dibromochloromethane	ND		ug/kg	0.48	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.48	--	1
Tetrachloroethene	ND		ug/kg	0.24	--	1
Chlorobenzene	ND		ug/kg	0.24	--	1
Trichlorofluoromethane	ND		ug/kg	1.9	--	1
1,2-Dichloroethane	ND		ug/kg	0.48	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.24	--	1
Bromodichloromethane	ND		ug/kg	0.24	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.48	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.24	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.24	--	1
1,1-Dichloropropene	ND		ug/kg	0.24	--	1
Bromoform	ND		ug/kg	1.9	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.24	--	1
Benzene	ND		ug/kg	0.24	--	1
Toluene	ND		ug/kg	0.48	--	1
Ethylbenzene	ND		ug/kg	0.48	--	1
Chloromethane	ND		ug/kg	1.9	--	1
Bromomethane	ND		ug/kg	0.95	--	1
Vinyl chloride	ND		ug/kg	0.48	--	1
Chloroethane	ND		ug/kg	0.95	--	1
1,1-Dichloroethene	ND		ug/kg	0.48	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.71	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-16 Date Collected: 11/02/19 09:10

Client ID: GLX-TPW-610 (3) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.24	--	1
1,2-Dichlorobenzene	ND		ug/kg	0.95	--	1
1,3-Dichlorobenzene	ND		ug/kg	0.95	--	1
1,4-Dichlorobenzene	ND		ug/kg	0.95	--	1
Methyl tert butyl ether	ND		ug/kg	0.95	--	1
p/m-Xylene	ND		ug/kg	0.95	--	1
o-Xylene	ND		ug/kg	0.48	--	1
Xylenes, Total	ND		ug/kg	0.48	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.48	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.48	--	1
Dibromomethane	ND		ug/kg	0.95	--	1
1,2,3-Trichloropropane	ND		ug/kg	0.95	--	1
Styrene	ND		ug/kg	0.48	--	1
Dichlorodifluoromethane	ND		ug/kg	4.8	--	1
Acetone	18		ug/kg	12	--	1
Carbon disulfide	ND		ug/kg	4.8	--	1
Methyl ethyl ketone	ND		ug/kg	4.8	--	1
Methyl isobutyl ketone	ND		ug/kg	4.8	--	1
2-Hexanone	ND		ug/kg	4.8	--	1
Bromochloromethane	ND		ug/kg	0.95	--	1
Tetrahydrofuran	ND		ug/kg	1.9	--	1
2,2-Dichloropropane	ND		ug/kg	0.95	--	1
1,2-Dibromoethane	ND		ug/kg	0.48	--	1
1,3-Dichloropropane	ND		ug/kg	0.95	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.24	--	1
Bromobenzene	ND		ug/kg	0.95	--	1
n-Butylbenzene	ND		ug/kg	0.48	--	1
sec-Butylbenzene	ND		ug/kg	0.48	--	1
tert-Butylbenzene	ND		ug/kg	0.95	--	1
o-Chlorotoluene	ND		ug/kg	0.95	--	1
p-Chlorotoluene	ND		ug/kg	0.95	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.4	--	1
Hexachlorobutadiene	ND		ug/kg	1.9	--	1
Isopropylbenzene	ND		ug/kg	0.48	--	1
p-Isopropyltoluene	ND		ug/kg	0.48	--	1
Naphthalene	ND		ug/kg	1.9	--	1
n-Propylbenzene	ND		ug/kg	0.48	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-16 Date Collected: 11/02/19 09:10

Client ID: GLX-TPW-610 (3) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	0.95	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	0.95	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	0.95	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	0.95	--	1
Diethyl ether	ND		ug/kg	0.95	--	1
Diisopropyl Ether	ND		ug/kg	0.95	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	0.95	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	0.95	--	1
1,4-Dioxane	ND		ug/kg	38	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	105		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-18
Client ID: GLX-TPW-610 (7)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 09:15
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/04/19 22:54
Analyst: NLK
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.0	--	1
1,1-Dichloroethane	ND		ug/kg	0.61	--	1
Chloroform	ND		ug/kg	0.91	--	1
Carbon tetrachloride	ND		ug/kg	0.61	--	1
1,2-Dichloropropane	ND		ug/kg	0.61	--	1
Dibromochloromethane	ND		ug/kg	0.61	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.61	--	1
Tetrachloroethene	ND		ug/kg	0.30	--	1
Chlorobenzene	ND		ug/kg	0.30	--	1
Trichlorofluoromethane	ND		ug/kg	2.4	--	1
1,2-Dichloroethane	ND		ug/kg	0.61	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.30	--	1
Bromodichloromethane	ND		ug/kg	0.30	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.61	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.30	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.30	--	1
1,1-Dichloropropene	ND		ug/kg	0.30	--	1
Bromoform	ND		ug/kg	2.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.30	--	1
Benzene	ND		ug/kg	0.30	--	1
Toluene	ND		ug/kg	0.61	--	1
Ethylbenzene	ND		ug/kg	0.61	--	1
Chloromethane	ND		ug/kg	2.4	--	1
Bromomethane	ND		ug/kg	1.2	--	1
Vinyl chloride	ND		ug/kg	0.61	--	1
Chloroethane	ND		ug/kg	1.2	--	1
1,1-Dichloroethene	ND		ug/kg	0.61	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.91	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-18 Date Collected: 11/02/19 09:15

Client ID: GLX-TPW-610 (7) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.30	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.2	--	1
Methyl tert butyl ether	ND		ug/kg	1.2	--	1
p/m-Xylene	ND		ug/kg	1.2	--	1
o-Xylene	ND		ug/kg	0.61	--	1
Xylenes, Total	ND		ug/kg	0.61	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.61	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.61	--	1
Dibromomethane	ND		ug/kg	1.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.2	--	1
Styrene	ND		ug/kg	0.61	--	1
Dichlorodifluoromethane	ND		ug/kg	6.1	--	1
Acetone	35		ug/kg	15	--	1
Carbon disulfide	ND		ug/kg	6.1	--	1
Methyl ethyl ketone	ND		ug/kg	6.1	--	1
Methyl isobutyl ketone	ND		ug/kg	6.1	--	1
2-Hexanone	ND		ug/kg	6.1	--	1
Bromochloromethane	ND		ug/kg	1.2	--	1
Tetrahydrofuran	ND		ug/kg	2.4	--	1
2,2-Dichloropropane	ND		ug/kg	1.2	--	1
1,2-Dibromoethane	ND		ug/kg	0.61	--	1
1,3-Dichloropropane	ND		ug/kg	1.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.30	--	1
Bromobenzene	ND		ug/kg	1.2	--	1
n-Butylbenzene	ND		ug/kg	0.61	--	1
sec-Butylbenzene	ND		ug/kg	0.61	--	1
tert-Butylbenzene	ND		ug/kg	1.2	--	1
o-Chlorotoluene	ND		ug/kg	1.2	--	1
p-Chlorotoluene	ND		ug/kg	1.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.8	--	1
Hexachlorobutadiene	ND		ug/kg	2.4	--	1
Isopropylbenzene	ND		ug/kg	0.61	--	1
p-Isopropyltoluene	ND		ug/kg	0.61	--	1
Naphthalene	ND		ug/kg	2.4	--	1
n-Propylbenzene	ND		ug/kg	0.61	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-18 Date Collected: 11/02/19 09:15

Client ID: GLX-TPW-610 (7) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.2	--	1
Diethyl ether	ND		ug/kg	1.2	--	1
Diisopropyl Ether	ND		ug/kg	1.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.2	--	1
1,4-Dioxane	ND		ug/kg	49	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	103		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-20
Client ID: GLC-C14(A)-DC-VOC (10)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:15
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/04/19 23:18
Analyst: NLK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.7	--	1
1,1-Dichloroethane	ND		ug/kg	0.74	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.74	--	1
1,2-Dichloropropane	ND		ug/kg	0.74	--	1
Dibromochloromethane	ND		ug/kg	0.74	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.74	--	1
Tetrachloroethene	ND		ug/kg	0.37	--	1
Chlorobenzene	ND		ug/kg	0.37	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.74	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.37	--	1
Bromodichloromethane	ND		ug/kg	0.37	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.74	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.37	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.37	--	1
1,1-Dichloropropene	ND		ug/kg	0.37	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Benzene	ND		ug/kg	0.37	--	1
Toluene	ND		ug/kg	0.74	--	1
Ethylbenzene	ND		ug/kg	0.74	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.74	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.74	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-20 Date Collected: 11/02/19 10:15

Client ID: GLC-C14(A)-DC-VOC (10) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.37	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.74	--	1
Xylenes, Total	ND		ug/kg	0.74	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.74	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.74	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.74	--	1
Dichlorodifluoromethane	ND		ug/kg	7.4	--	1
Acetone	ND		ug/kg	18	--	1
Carbon disulfide	ND		ug/kg	7.4	--	1
Methyl ethyl ketone	ND		ug/kg	7.4	--	1
Methyl isobutyl ketone	ND		ug/kg	7.4	--	1
2-Hexanone	ND		ug/kg	7.4	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.74	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.37	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.74	--	1
sec-Butylbenzene	ND		ug/kg	0.74	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.74	--	1
p-Isopropyltoluene	ND		ug/kg	0.74	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.74	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-20 Date Collected: 11/02/19 10:15

Client ID: GLC-C14(A)-DC-VOC (10) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	59	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	104		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-23 Date Collected: 11/02/19 10:45

Client ID: GLC-C14(B)-DC-VOC (12) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 97,8260C

Analytical Date: 11/04/19 23:43

Analyst: NLK

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.76	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.76	--	1
1,2-Dichloropropane	ND		ug/kg	0.76	--	1
Dibromochloromethane	ND		ug/kg	0.76	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	--	1
Tetrachloroethene	ND		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.76	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	ND		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.76	--	1
Ethylbenzene	ND		ug/kg	0.76	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.76	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.76	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-23 Date Collected: 11/02/19 10:45

Client ID: GLC-C14(B)-DC-VOC (12) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.76	--	1
Xylenes, Total	ND		ug/kg	0.76	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.76	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.76	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.76	--	1
Dichlorodifluoromethane	ND		ug/kg	7.6	--	1
Acetone	ND		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.6	--	1
Methyl ethyl ketone	ND		ug/kg	7.6	--	1
Methyl isobutyl ketone	ND		ug/kg	7.6	--	1
2-Hexanone	ND		ug/kg	7.6	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.76	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.76	--	1
sec-Butylbenzene	ND		ug/kg	0.76	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.76	--	1
p-Isopropyltoluene	ND		ug/kg	0.76	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.76	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-23 Date Collected: 11/02/19 10:45

Client ID: GLC-C14(B)-DC-VOC (12) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	61	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	106		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-23 R
Client ID: GLC-C14(B)-DC-VOC (12)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:45
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/05/19 19:30
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	2.6	--	1
1,1-Dichloroethane	ND		ug/kg	0.52	--	1
Chloroform	ND		ug/kg	0.78	--	1
Carbon tetrachloride	ND		ug/kg	0.52	--	1
1,2-Dichloropropane	ND		ug/kg	0.52	--	1
Dibromochloromethane	ND		ug/kg	0.52	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.52	--	1
Tetrachloroethene	ND		ug/kg	0.26	--	1
Chlorobenzene	ND		ug/kg	0.26	--	1
Trichlorofluoromethane	ND		ug/kg	2.1	--	1
1,2-Dichloroethane	ND		ug/kg	0.52	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.26	--	1
Bromodichloromethane	ND		ug/kg	0.26	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.52	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.26	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.26	--	1
1,1-Dichloropropene	ND		ug/kg	0.26	--	1
Bromoform	ND		ug/kg	2.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.26	--	1
Benzene	ND		ug/kg	0.26	--	1
Toluene	ND		ug/kg	0.52	--	1
Ethylbenzene	ND		ug/kg	0.52	--	1
Chloromethane	ND		ug/kg	2.1	--	1
Bromomethane	ND		ug/kg	1.0	--	1
Vinyl chloride	ND		ug/kg	0.52	--	1
Chloroethane	ND		ug/kg	1.0	--	1
1,1-Dichloroethene	ND		ug/kg	0.52	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.78	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-23 R
Client ID: GLC-C14(B)-DC-VOC (12)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:45
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.26	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.0	--	1
Methyl tert butyl ether	ND		ug/kg	1.0	--	1
p/m-Xylene	ND		ug/kg	1.0	--	1
o-Xylene	ND		ug/kg	0.52	--	1
Xylenes, Total	ND		ug/kg	0.52	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.52	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.52	--	1
Dibromomethane	ND		ug/kg	1.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.0	--	1
Styrene	ND		ug/kg	0.52	--	1
Dichlorodifluoromethane	ND		ug/kg	5.2	--	1
Acetone	ND		ug/kg	13	--	1
Carbon disulfide	ND		ug/kg	5.2	--	1
Methyl ethyl ketone	ND		ug/kg	5.2	--	1
Methyl isobutyl ketone	ND		ug/kg	5.2	--	1
2-Hexanone	ND		ug/kg	5.2	--	1
Bromochloromethane	ND		ug/kg	1.0	--	1
Tetrahydrofuran	ND		ug/kg	2.1	--	1
2,2-Dichloropropane	ND		ug/kg	1.0	--	1
1,2-Dibromoethane	ND		ug/kg	0.52	--	1
1,3-Dichloropropane	ND		ug/kg	1.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.26	--	1
Bromobenzene	ND		ug/kg	1.0	--	1
n-Butylbenzene	ND		ug/kg	0.52	--	1
sec-Butylbenzene	ND		ug/kg	0.52	--	1
tert-Butylbenzene	ND		ug/kg	1.0	--	1
o-Chlorotoluene	ND		ug/kg	1.0	--	1
p-Chlorotoluene	ND		ug/kg	1.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.6	--	1
Hexachlorobutadiene	ND		ug/kg	2.1	--	1
Isopropylbenzene	ND		ug/kg	0.52	--	1
p-Isopropyltoluene	ND		ug/kg	0.52	--	1
Naphthalene	ND		ug/kg	2.1	--	1
n-Propylbenzene	ND		ug/kg	0.52	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-23 R
Client ID: GLC-C14(B)-DC-VOC (12)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:45
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.0	--	1
Diethyl ether	ND		ug/kg	1.0	--	1
Diisopropyl Ether	ND		ug/kg	1.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.0	--	1
1,4-Dioxane	ND		ug/kg	42	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	127		70-130
Dibromofluoromethane	92		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-25
Client ID: GLC-C13(A)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:10
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/05/19 04:08
Analyst: NLK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.1	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	ND		ug/kg	0.51	--	1
Chlorobenzene	ND		ug/kg	0.51	--	1
Trichlorofluoromethane	ND		ug/kg	4.1	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.51	--	1
Bromodichloromethane	ND		ug/kg	0.51	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.51	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.51	--	1
1,1-Dichloropropene	ND		ug/kg	0.51	--	1
Bromoform	ND		ug/kg	4.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.51	--	1
Benzene	ND		ug/kg	0.51	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.1	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-25 Date Collected: 11/02/19 11:10

Client ID: GLC-C13(A)-DC-VOC (9) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.51	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	490	E	ug/kg	26	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.1	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.51	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.1	--	1
Hexachlorobutadiene	ND		ug/kg	4.1	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.1	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-25 Date Collected: 11/02/19 11:10

Client ID: GLC-C13(A)-DC-VOC (9) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	109		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-25 R
Client ID: GLC-C13(A)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:10
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/05/19 20:10
Analyst: NLK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.5	--	1
1,1-Dichloroethane	ND		ug/kg	1.3	--	1
Chloroform	ND		ug/kg	2.0	--	1
Carbon tetrachloride	ND		ug/kg	1.3	--	1
1,2-Dichloropropane	ND		ug/kg	1.3	--	1
Dibromochloromethane	ND		ug/kg	1.3	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.3	--	1
Tetrachloroethene	ND		ug/kg	0.65	--	1
Chlorobenzene	ND		ug/kg	0.65	--	1
Trichlorofluoromethane	ND		ug/kg	5.2	--	1
1,2-Dichloroethane	ND		ug/kg	1.3	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.65	--	1
Bromodichloromethane	ND		ug/kg	0.65	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.3	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.65	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.65	--	1
1,1-Dichloropropene	ND		ug/kg	0.65	--	1
Bromoform	ND		ug/kg	5.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.65	--	1
Benzene	ND		ug/kg	0.65	--	1
Toluene	ND		ug/kg	1.3	--	1
Ethylbenzene	ND		ug/kg	1.3	--	1
Chloromethane	ND		ug/kg	5.2	--	1
Bromomethane	ND		ug/kg	2.6	--	1
Vinyl chloride	ND		ug/kg	1.3	--	1
Chloroethane	ND		ug/kg	2.6	--	1
1,1-Dichloroethene	ND		ug/kg	1.3	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.0	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-25 R
Client ID: GLC-C13(A)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:10
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.65	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.6	--	1
Methyl tert butyl ether	ND		ug/kg	2.6	--	1
p/m-Xylene	ND		ug/kg	2.6	--	1
o-Xylene	ND		ug/kg	1.3	--	1
Xylenes, Total	ND		ug/kg	1.3	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.3	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.3	--	1
Dibromomethane	ND		ug/kg	2.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.6	--	1
Styrene	ND		ug/kg	1.3	--	1
Dichlorodifluoromethane	ND		ug/kg	13	--	1
Acetone	130		ug/kg	32	--	1
Carbon disulfide	ND		ug/kg	13	--	1
Methyl ethyl ketone	ND		ug/kg	13	--	1
Methyl isobutyl ketone	ND		ug/kg	13	--	1
2-Hexanone	ND		ug/kg	13	--	1
Bromochloromethane	ND		ug/kg	2.6	--	1
Tetrahydrofuran	ND		ug/kg	5.2	--	1
2,2-Dichloropropane	ND		ug/kg	2.6	--	1
1,2-Dibromoethane	ND		ug/kg	1.3	--	1
1,3-Dichloropropane	ND		ug/kg	2.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.65	--	1
Bromobenzene	ND		ug/kg	2.6	--	1
n-Butylbenzene	ND		ug/kg	1.3	--	1
sec-Butylbenzene	ND		ug/kg	1.3	--	1
tert-Butylbenzene	ND		ug/kg	2.6	--	1
o-Chlorotoluene	ND		ug/kg	2.6	--	1
p-Chlorotoluene	ND		ug/kg	2.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.9	--	1
Hexachlorobutadiene	ND		ug/kg	5.2	--	1
Isopropylbenzene	ND		ug/kg	1.3	--	1
p-Isopropyltoluene	ND		ug/kg	1.3	--	1
Naphthalene	ND		ug/kg	5.2	--	1
n-Propylbenzene	ND		ug/kg	1.3	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-25 R
Client ID: GLC-C13(A)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:10
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.6	--	1
Diethyl ether	ND		ug/kg	2.6	--	1
Diisopropyl Ether	ND		ug/kg	2.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.6	--	1
1,4-Dioxane	ND		ug/kg	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	**140**	Q	70-130
4-Bromofluorobenzene	**160**	Q	70-130
Dibromofluoromethane	107		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27
Client ID: GLC-C13(B)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/05/19 00:07
Analyst: NLK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.4	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.6	--	1
Carbon tetrachloride	ND		ug/kg	1.1	--	1
1,2-Dichloropropane	ND		ug/kg	1.1	--	1
Dibromochloromethane	ND		ug/kg	1.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	--	1
Tetrachloroethene	ND		ug/kg	0.54	--	1
Chlorobenzene	ND		ug/kg	0.54	--	1
Trichlorofluoromethane	ND		ug/kg	4.3	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.54	--	1
Bromodichloromethane	ND		ug/kg	0.54	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.54	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.54	--	1
1,1-Dichloropropene	ND		ug/kg	0.54	--	1
Bromoform	ND		ug/kg	4.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.54	--	1
Benzene	ND		ug/kg	0.54	--	1
Toluene	ND		ug/kg	1.1	--	1
Ethylbenzene	ND		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.3	--	1
Bromomethane	ND		ug/kg	2.2	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27 Date Collected: 11/02/19 11:35

Client ID: GLC-C13(B)-DC-VOC (9) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.54	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	--	1
Methyl tert butyl ether	ND		ug/kg	2.2	--	1
p/m-Xylene	ND		ug/kg	2.2	--	1
o-Xylene	ND		ug/kg	1.1	--	1
Xylenes, Total	ND		ug/kg	1.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	--	1
Dibromomethane	ND		ug/kg	2.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	160		ug/kg	27	--	1
Carbon disulfide	ND		ug/kg	11	--	1
Methyl ethyl ketone	ND		ug/kg	11	--	1
Methyl isobutyl ketone	ND		ug/kg	11	--	1
2-Hexanone	ND		ug/kg	11	--	1
Bromochloromethane	ND		ug/kg	2.2	--	1
Tetrahydrofuran	ND		ug/kg	4.3	--	1
2,2-Dichloropropane	ND		ug/kg	2.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.54	--	1
Bromobenzene	ND		ug/kg	2.2	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.2	--	1
o-Chlorotoluene	ND		ug/kg	2.2	--	1
p-Chlorotoluene	ND		ug/kg	2.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	--	1
Hexachlorobutadiene	ND		ug/kg	4.3	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	ND		ug/kg	1.1	--	1
Naphthalene	ND		ug/kg	4.3	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27 Date Collected: 11/02/19 11:35

Client ID: GLC-C13(B)-DC-VOC (9) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	--	1
Diethyl ether	ND		ug/kg	2.2	--	1
Diisopropyl Ether	ND		ug/kg	2.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.2	--	1
1,4-Dioxane	ND		ug/kg	87	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	**138**	Q	70-130
4-Bromofluorobenzene	**156**	Q	70-130
Dibromofluoromethane	117		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27 Date Collected: 11/02/19 11:35
Client ID: GLC-C13(B)-DC-VOC (9) Date Received: 11/02/19
Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/06/19 13:27
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	300	--	1
1,1-Dichloroethane	ND		ug/kg	60	--	1
Chloroform	ND		ug/kg	91	--	1
Carbon tetrachloride	ND		ug/kg	60	--	1
1,2-Dichloropropane	ND		ug/kg	60	--	1
Dibromochloromethane	ND		ug/kg	60	--	1
1,1,2-Trichloroethane	ND		ug/kg	60	--	1
Tetrachloroethene	ND		ug/kg	30	--	1
Chlorobenzene	ND		ug/kg	30	--	1
Trichlorofluoromethane	ND		ug/kg	240	--	1
1,2-Dichloroethane	ND		ug/kg	60	--	1
1,1,1-Trichloroethane	ND		ug/kg	30	--	1
Bromodichloromethane	ND		ug/kg	30	--	1
trans-1,3-Dichloropropene	ND		ug/kg	60	--	1
cis-1,3-Dichloropropene	ND		ug/kg	30	--	1
1,3-Dichloropropene, Total	ND		ug/kg	30	--	1
1,1-Dichloropropene	ND		ug/kg	30	--	1
Bromoform	ND		ug/kg	240	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	30	--	1
Benzene	ND		ug/kg	30	--	1
Toluene	ND		ug/kg	60	--	1
Ethylbenzene	ND		ug/kg	60	--	1
Chloromethane	ND		ug/kg	240	--	1
Bromomethane	ND		ug/kg	120	--	1
Vinyl chloride	ND		ug/kg	60	--	1
Chloroethane	ND		ug/kg	120	--	1
1,1-Dichloroethene	ND		ug/kg	60	--	1
trans-1,2-Dichloroethene	ND		ug/kg	91	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27 Date Collected: 11/02/19 11:35

Client ID: GLC-C13(B)-DC-VOC (9) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	30	--	1
1,2-Dichlorobenzene	ND		ug/kg	120	--	1
1,3-Dichlorobenzene	ND		ug/kg	120	--	1
1,4-Dichlorobenzene	ND		ug/kg	120	--	1
Methyl tert butyl ether	ND		ug/kg	120	--	1
p/m-Xylene	ND		ug/kg	120	--	1
o-Xylene	ND		ug/kg	60	--	1
Xylenes, Total	ND		ug/kg	60	--	1
cis-1,2-Dichloroethene	ND		ug/kg	60	--	1
1,2-Dichloroethene, Total	ND		ug/kg	60	--	1
Dibromomethane	ND		ug/kg	120	--	1
1,2,3-Trichloropropane	ND		ug/kg	120	--	1
Styrene	ND		ug/kg	60	--	1
Dichlorodifluoromethane	ND		ug/kg	600	--	1
Acetone	ND		ug/kg	600	--	1
Carbon disulfide	ND		ug/kg	600	--	1
Methyl ethyl ketone	ND		ug/kg	600	--	1
Methyl isobutyl ketone	ND		ug/kg	600	--	1
2-Hexanone	ND		ug/kg	600	--	1
Bromochloromethane	ND		ug/kg	120	--	1
Tetrahydrofuran	ND		ug/kg	240	--	1
2,2-Dichloropropane	ND		ug/kg	120	--	1
1,2-Dibromoethane	ND		ug/kg	60	--	1
1,3-Dichloropropane	ND		ug/kg	120	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	30	--	1
Bromobenzene	ND		ug/kg	120	--	1
n-Butylbenzene	ND		ug/kg	60	--	1
sec-Butylbenzene	ND		ug/kg	60	--	1
tert-Butylbenzene	ND		ug/kg	120	--	1
o-Chlorotoluene	ND		ug/kg	120	--	1
p-Chlorotoluene	ND		ug/kg	120	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	180	--	1
Hexachlorobutadiene	ND		ug/kg	240	--	1
Isopropylbenzene	ND		ug/kg	60	--	1
p-Isopropyltoluene	ND		ug/kg	60	--	1
Naphthalene	ND		ug/kg	240	--	1
n-Propylbenzene	ND		ug/kg	60	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27 Date Collected: 11/02/19 11:35

Client ID: GLC-C13(B)-DC-VOC (9) Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	120	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	120	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	120	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	120	--	1
Diethyl ether	ND		ug/kg	120	--	1
Diisopropyl Ether	ND		ug/kg	120	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	120	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	120	--	1
1,4-Dioxane	ND		ug/kg	4800	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	96		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27 R
Client ID: GLC-C13(B)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/05/19 20:49
Analyst: NLK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.4	--	1
1,1-Dichloroethane	ND		ug/kg	1.1	--	1
Chloroform	ND		ug/kg	1.6	--	1
Carbon tetrachloride	ND		ug/kg	1.1	--	1
1,2-Dichloropropane	ND		ug/kg	1.1	--	1
Dibromochloromethane	ND		ug/kg	1.1	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	--	1
Tetrachloroethene	ND		ug/kg	0.54	--	1
Chlorobenzene	ND		ug/kg	0.54	--	1
Trichlorofluoromethane	ND		ug/kg	4.4	--	1
1,2-Dichloroethane	ND		ug/kg	1.1	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.54	--	1
Bromodichloromethane	ND		ug/kg	0.54	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.54	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.54	--	1
1,1-Dichloropropene	ND		ug/kg	0.54	--	1
Bromoform	ND		ug/kg	4.4	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.54	--	1
Benzene	ND		ug/kg	0.54	--	1
Toluene	ND		ug/kg	1.1	--	1
Ethylbenzene	ND		ug/kg	1.1	--	1
Chloromethane	ND		ug/kg	4.4	--	1
Bromomethane	ND		ug/kg	2.2	--	1
Vinyl chloride	ND		ug/kg	1.1	--	1
Chloroethane	ND		ug/kg	2.2	--	1
1,1-Dichloroethene	ND		ug/kg	1.1	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27 R
Client ID: GLC-C13(B)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.54	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	--	1
Methyl tert butyl ether	ND		ug/kg	2.2	--	1
p/m-Xylene	ND		ug/kg	2.2	--	1
o-Xylene	ND		ug/kg	1.1	--	1
Xylenes, Total	ND		ug/kg	1.1	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	--	1
Dibromomethane	ND		ug/kg	2.2	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	--	1
Styrene	ND		ug/kg	1.1	--	1
Dichlorodifluoromethane	ND		ug/kg	11	--	1
Acetone	57		ug/kg	27	--	1
Carbon disulfide	ND		ug/kg	11	--	1
Methyl ethyl ketone	ND		ug/kg	11	--	1
Methyl isobutyl ketone	ND		ug/kg	11	--	1
2-Hexanone	ND		ug/kg	11	--	1
Bromochloromethane	ND		ug/kg	2.2	--	1
Tetrahydrofuran	ND		ug/kg	4.4	--	1
2,2-Dichloropropane	ND		ug/kg	2.2	--	1
1,2-Dibromoethane	ND		ug/kg	1.1	--	1
1,3-Dichloropropane	ND		ug/kg	2.2	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.54	--	1
Bromobenzene	ND		ug/kg	2.2	--	1
n-Butylbenzene	ND		ug/kg	1.1	--	1
sec-Butylbenzene	ND		ug/kg	1.1	--	1
tert-Butylbenzene	ND		ug/kg	2.2	--	1
o-Chlorotoluene	ND		ug/kg	2.2	--	1
p-Chlorotoluene	ND		ug/kg	2.2	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	--	1
Hexachlorobutadiene	ND		ug/kg	4.4	--	1
Isopropylbenzene	ND		ug/kg	1.1	--	1
p-Isopropyltoluene	ND		ug/kg	1.1	--	1
Naphthalene	ND		ug/kg	4.4	--	1
n-Propylbenzene	ND		ug/kg	1.1	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27 R
Client ID: GLC-C13(B)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	--	1
Diethyl ether	ND		ug/kg	2.2	--	1
Diisopropyl Ether	ND		ug/kg	2.2	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.2	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.2	--	1
1,4-Dioxane	ND		ug/kg	87	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	**155**	Q	70-130
4-Bromofluorobenzene	**187**	Q	70-130
Dibromofluoromethane	104		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/04/19 19:43
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04,06,08,10,16,18,20,23,25,27 Batch: WG1304637-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/04/19 19:43
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04,06,08,10,16,18,20,23,25,27 Batch: WG1304637-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/04/19 19:43
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04,06,08,10,16,18,20,23,25,27 Batch: WG1304637-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/05/19 16:53
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,10,23,25,27 Batch: WG1305198-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/05/19 16:53
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,10,23,25,27 Batch: WG1305198-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/05/19 16:53
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,10,23,25,27 Batch: WG1305198-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	87		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/06/19 11:19
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 27 Batch: WG1305356-5					
Methylene chloride	ND		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	25	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/06/19 11:19
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 27 Batch: WG1305356-5					
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/06/19 11:19
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 27 Batch: WG1305356-5					
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
Diethyl ether	ND		ug/kg	100	--
Diisopropyl Ether	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	4000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	97		70-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/07/19 08:57
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12,14 Batch: WG1305928-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/07/19 08:57
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12,14 Batch: WG1305928-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/07/19 08:57
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12,14 Batch: WG1305928-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	95		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 04,06,08,10,16,18,20,23,25,27		Batch: WG1304637-3 WG1304637-4					
Methylene chloride	93		95		70-130	2		20
1,1-Dichloroethane	112		112		70-130	0		20
Chloroform	113		114		70-130	1		20
Carbon tetrachloride	116		116		70-130	0		20
1,2-Dichloropropane	108		109		70-130	1		20
Dibromochloromethane	111		114		70-130	3		20
1,1,2-Trichloroethane	98		102		70-130	4		20
Tetrachloroethene	110		111		70-130	1		20
Chlorobenzene	105		107		70-130	2		20
Trichlorofluoromethane	75		74		70-130	1		20
1,2-Dichloroethane	114		115		70-130	1		20
1,1,1-Trichloroethane	118		118		70-130	0		20
Bromodichloromethane	118		120		70-130	2		20
trans-1,3-Dichloropropene	107		110		70-130	3		20
cis-1,3-Dichloropropene	111		113		70-130	2		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	101		102		70-130	1		20
1,1,2,2-Tetrachloroethane	95		96		70-130	1		20
Benzene	107		108		70-130	1		20
Toluene	102		104		70-130	2		20
Ethylbenzene	107		109		70-130	2		20
Chloromethane	94		95		70-130	1		20
Bromomethane	**67**	Q	**66**	Q	70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 04,06,08,10,16,18,20,23,25,27		Batch: WG1304637-3 WG1304637-4					
Vinyl chloride	78		76		70-130	3		20
Chloroethane	**60**	Q	**60**	Q	70-130	0		20
1,1-Dichloroethene	98		99		70-130	1		20
trans-1,2-Dichloroethene	106		105		70-130	1		20
Trichloroethene	113		113		70-130	0		20
1,2-Dichlorobenzene	102		102		70-130	0		20
1,3-Dichlorobenzene	106		106		70-130	0		20
1,4-Dichlorobenzene	104		104		70-130	0		20
Methyl tert butyl ether	105		107		70-130	2		20
p/m-Xylene	108		109		70-130	1		20
o-Xylene	106		108		70-130	2		20
cis-1,2-Dichloroethene	106		106		70-130	0		20
Dibromomethane	107		109		70-130	2		20
1,2,3-Trichloropropane	97		96		70-130	1		20
Styrene	109		112		70-130	3		20
Dichlorodifluoromethane	**62**	Q	**63**	Q	70-130	2		20
Acetone	**146**	Q	**142**	Q	70-130	3		20
Carbon disulfide	92		93		70-130	1		20
Methyl ethyl ketone	130		126		70-130	3		20
Methyl isobutyl ketone	104		106		70-130	2		20
2-Hexanone	123		124		70-130	1		20
Bromochloromethane	106		105		70-130	1		20
Tetrahydrofuran	**131**	Q	130		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 04,06,08,10,16,18,20,23,25,27		Batch: WG1304637-3 WG1304637-4					
2,2-Dichloropropane	111		110		70-130	1		20
1,2-Dibromoethane	102		106		70-130	4		20
1,3-Dichloropropane	100		103		70-130	3		20
1,1,1,2-Tetrachloroethane	110		113		70-130	3		20
Bromobenzene	101		101		70-130	0		20
n-Butylbenzene	108		108		70-130	0		20
sec-Butylbenzene	104		105		70-130	1		20
tert-Butylbenzene	104		104		70-130	0		20
o-Chlorotoluene	106		107		70-130	1		20
p-Chlorotoluene	107		108		70-130	1		20
1,2-Dibromo-3-chloropropane	94		94		70-130	0		20
Hexachlorobutadiene	105		106		70-130	1		20
Isopropylbenzene	105		105		70-130	0		20
p-Isopropyltoluene	106		107		70-130	1		20
Naphthalene	92		94		70-130	2		20
n-Propylbenzene	106		107		70-130	1		20
1,2,3-Trichlorobenzene	101		103		70-130	2		20
1,2,4-Trichlorobenzene	108		109		70-130	1		20
1,3,5-Trimethylbenzene	106		107		70-130	1		20
1,2,4-Trimethylbenzene	107		108		70-130	1		20
Diethyl ether	100		102		70-130	2		20
Diisopropyl Ether	**136**	Q	**139**	Q	70-130	2		20
Ethyl-Tert-Butyl-Ether	114		117		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 04,06,08,10,16,18,20,23,25,27		Batch: WG1304637-3 WG1304637-4					
Tertiary-Amyl Methyl Ether	105		107		70-130	2		20
1,4-Dioxane	120		121		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		104		70-130
Toluene-d8	93		94		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	104		102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,10,23,25,27 Batch: WG1305198-3 WG1305198-4								
Methylene chloride	101		101		70-130	0		20
1,1-Dichloroethane	102		100		70-130	2		20
Chloroform	95		96		70-130	1		20
Carbon tetrachloride	96		98		70-130	2		20
1,2-Dichloropropane	104		103		70-130	1		20
Dibromochloromethane	97		100		70-130	3		20
1,1,2-Trichloroethane	99		100		70-130	1		20
Tetrachloroethene	94		94		70-130	0		20
Chlorobenzene	97		97		70-130	0		20
Trichlorofluoromethane	95		96		70-130	1		20
1,2-Dichloroethane	94		94		70-130	0		20
1,1,1-Trichloroethane	97		97		70-130	0		20
Bromodichloromethane	94		95		70-130	1		20
trans-1,3-Dichloropropene	90		89		70-130	1		20
cis-1,3-Dichloropropene	89		87		70-130	2		20
1,1-Dichloropropene	101		101		70-130	0		20
Bromoform	93		97		70-130	4		20
1,1,2,2-Tetrachloroethane	92		97		70-130	5		20
Benzene	98		98		70-130	0		20
Toluene	99		99		70-130	0		20
Ethylbenzene	102		102		70-130	0		20
Chloromethane	98		98		70-130	0		20
Bromomethane	106		112		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,10,23,25,27 Batch: WG1305198-3 WG1305198-4								
Vinyl chloride	90		88		70-130	2		20
Chloroethane	105		104		70-130	1		20
1,1-Dichloroethene	100		100		70-130	0		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	104		100		70-130	4		20
1,2-Dichlorobenzene	100		101		70-130	1		20
1,3-Dichlorobenzene	102		104		70-130	2		20
1,4-Dichlorobenzene	101		103		70-130	2		20
Methyl tert butyl ether	105		105		70-130	0		20
p/m-Xylene	102		102		70-130	0		20
o-Xylene	102		101		70-130	1		20
cis-1,2-Dichloroethene	98		98		70-130	0		20
Dibromomethane	96		95		70-130	1		20
1,2,3-Trichloropropane	98		100		70-130	2		20
Styrene	107		107		70-130	0		20
Dichlorodifluoromethane	92		92		70-130	0		20
Acetone	116		108		70-130	7		20
Carbon disulfide	93		93		70-130	0		20
Methyl ethyl ketone	114		111		70-130	3		20
Methyl isobutyl ketone	112		114		70-130	2		20
2-Hexanone	109		111		70-130	2		20
Bromochloromethane	99		99		70-130	0		20
Tetrahydrofuran	116		116		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,10,23,25,27 Batch: WG1305198-3 WG1305198-4								
2,2-Dichloropropane	104		103		70-130	1		20
1,2-Dibromoethane	99		98		70-130	1		20
1,3-Dichloropropane	96		96		70-130	0		20
1,1,1,2-Tetrachloroethane	100		100		70-130	0		20
Bromobenzene	97		98		70-130	1		20
n-Butylbenzene	100		102		70-130	2		20
sec-Butylbenzene	103		104		70-130	1		20
tert-Butylbenzene	104		105		70-130	1		20
o-Chlorotoluene	98		99		70-130	1		20
p-Chlorotoluene	100		102		70-130	2		20
1,2-Dibromo-3-chloropropane	101		105		70-130	4		20
Hexachlorobutadiene	92		96		70-130	4		20
Isopropylbenzene	102		103		70-130	1		20
p-Isopropyltoluene	105		106		70-130	1		20
Naphthalene	110		114		70-130	4		20
n-Propylbenzene	102		103		70-130	1		20
1,2,3-Trichlorobenzene	100		103		70-130	3		20
1,2,4-Trichlorobenzene	104		108		70-130	4		20
1,3,5-Trimethylbenzene	102		103		70-130	1		20
1,2,4-Trimethylbenzene	103		104		70-130	1		20
Diethyl ether	105		106		70-130	1		20
Diisopropyl Ether	111		109		70-130	2		20
Ethyl-Tert-Butyl-Ether	105		104		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952035

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,10,23,25,27 Batch: WG1305198-3 WG1305198-4								
Tertiary-Amyl Methyl Ether	102		103		70-130	1		20
1,4-Dioxane	117		121		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		91		70-130
Toluene-d8	92		92		70-130
4-Bromofluorobenzene	95		96		70-130
Dibromofluoromethane	86		88		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 27 Batch: WG1305356-3 WG1305356-4								
Methylene chloride	106		104		70-130	2		20
1,1-Dichloroethane	109		104		70-130	5		20
Chloroform	114		110		70-130	4		20
Carbon tetrachloride	111		105		70-130	6		20
1,2-Dichloropropane	109		106		70-130	3		20
Dibromochloromethane	91		89		70-130	2		20
1,1,2-Trichloroethane	88		85		70-130	3		20
Tetrachloroethene	93		88		70-130	6		20
Chlorobenzene	96		92		70-130	4		20
Trichlorofluoromethane	94		89		70-130	5		20
1,2-Dichloroethane	98		99		70-130	1		20
1,1,1-Trichloroethane	104		98		70-130	6		20
Bromodichloromethane	100		99		70-130	1		20
trans-1,3-Dichloropropene	93		91		70-130	2		20
cis-1,3-Dichloropropene	107		105		70-130	2		20
1,1-Dichloropropene	108		102		70-130	6		20
Bromoform	88		87		70-130	1		20
1,1,2,2-Tetrachloroethane	79		79		70-130	0		20
Benzene	100		98		70-130	2		20
Toluene	87		84		70-130	4		20
Ethylbenzene	88		84		70-130	5		20
Chloromethane	116		112		70-130	4		20
Bromomethane	121		122		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 27 Batch: WG1305356-3 WG1305356-4								
Vinyl chloride	116		110		70-130	5		20
Chloroethane	106		101		70-130	5		20
1,1-Dichloroethene	112		107		70-130	5		20
trans-1,2-Dichloroethene	109		105		70-130	4		20
Trichloroethene	101		96		70-130	5		20
1,2-Dichlorobenzene	84		82		70-130	2		20
1,3-Dichlorobenzene	85		83		70-130	2		20
1,4-Dichlorobenzene	82		82		70-130	0		20
Methyl tert butyl ether	110		110		70-130	0		20
p/m-Xylene	84		80		70-130	5		20
o-Xylene	84		80		70-130	5		20
cis-1,2-Dichloroethene	109		105		70-130	4		20
Dibromomethane	102		102		70-130	0		20
1,2,3-Trichloropropane	80		81		70-130	1		20
Styrene	84		80		70-130	5		20
Dichlorodifluoromethane	106		100		70-130	6		20
Acetone	122		124		70-130	2		20
Carbon disulfide	110		103		70-130	7		20
Methyl ethyl ketone	112		111		70-130	1		20
Methyl isobutyl ketone	102		100		70-130	2		20
2-Hexanone	102		100		70-130	2		20
Bromochloromethane	111		110		70-130	1		20
Tetrahydrofuran	123		124		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 27 Batch: WG1305356-3 WG1305356-4								
2,2-Dichloropropane	112		107		70-130	5		20
1,2-Dibromoethane	91		89		70-130	2		20
1,3-Dichloropropane	87		86		70-130	1		20
1,1,1,2-Tetrachloroethane	86		83		70-130	4		20
Bromobenzene	84		83		70-130	1		20
n-Butylbenzene	85		81		70-130	5		20
sec-Butylbenzene	85		81		70-130	5		20
tert-Butylbenzene	84		81		70-130	4		20
o-Chlorotoluene	81		78		70-130	4		20
p-Chlorotoluene	82		80		70-130	2		20
1,2-Dibromo-3-chloropropane	87		86		70-130	1		20
Hexachlorobutadiene	84		80		70-130	5		20
Isopropylbenzene	83		81		70-130	2		20
p-Isopropyltoluene	87		83		70-130	5		20
Naphthalene	89		89		70-130	0		20
n-Propylbenzene	84		81		70-130	4		20
1,2,3-Trichlorobenzene	88		87		70-130	1		20
1,2,4-Trichlorobenzene	89		87		70-130	2		20
1,3,5-Trimethylbenzene	83		81		70-130	2		20
1,2,4-Trimethylbenzene	82		80		70-130	2		20
Diethyl ether	112		112		70-130	0		20
Diisopropyl Ether	109		108		70-130	1		20
Ethyl-Tert-Butyl-Ether	111		111		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952035

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 27 Batch: WG1305356-3 WG1305356-4								
Tertiary-Amyl Methyl Ether	112		112		70-130	0		20
1,4-Dioxane	111		111		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		92		70-130
Toluene-d8	89		88		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	100		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 12,14		Batch: WG1305928-3 WG1305928-4					
Methylene chloride	102		108		70-130	6		20
1,1-Dichloroethane	106		108		70-130	2		20
Chloroform	109		116		70-130	6		20
Carbon tetrachloride	110		117		70-130	6		20
1,2-Dichloropropane	104		111		70-130	7		20
Dibromochloromethane	83		88		70-130	6		20
1,1,2-Trichloroethane	81		85		70-130	5		20
Tetrachloroethene	91		96		70-130	5		20
Chlorobenzene	91		95		70-130	4		20
Trichlorofluoromethane	100		105		70-130	5		20
1,2-Dichloroethane	94		100		70-130	6		20
1,1,1-Trichloroethane	104		110		70-130	6		20
Bromodichloromethane	94		100		70-130	6		20
trans-1,3-Dichloropropene	85		91		70-130	7		20
cis-1,3-Dichloropropene	101		108		70-130	7		20
1,1-Dichloropropene	109		114		70-130	4		20
Bromoform	79		85		70-130	7		20
1,1,2,2-Tetrachloroethane	73		77		70-130	5		20
Benzene	99		105		70-130	6		20
Toluene	84		88		70-130	5		20
Ethylbenzene	86		89		70-130	3		20
Chloromethane	117		120		70-130	3		20
Bromomethane	121		130		70-130	7		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 12,14		Batch: WG1305928-3 WG1305928-4					
Vinyl chloride	120		124		70-130	3		20
Chloroethane	105		112		70-130	6		20
1,1-Dichloroethene	113		119		70-130	5		20
trans-1,2-Dichloroethene	108		114		70-130	5		20
Trichloroethene	100		106		70-130	6		20
1,2-Dichlorobenzene	78		83		70-130	6		20
1,3-Dichlorobenzene	79		85		70-130	7		20
1,4-Dichlorobenzene	78		82		70-130	5		20
Methyl tert butyl ether	104		110		70-130	6		20
p/m-Xylene	82		86		70-130	5		20
o-Xylene	81		84		70-130	4		20
cis-1,2-Dichloroethene	103		110		70-130	7		20
Dibromomethane	97		102		70-130	5		20
1,2,3-Trichloropropane	74		78		70-130	5		20
Styrene	80		83		70-130	4		20
Dichlorodifluoromethane	108		112		70-130	4		20
Acetone	122		126		70-130	3		20
Carbon disulfide	110		115		70-130	4		20
Methyl ethyl ketone	110		105		70-130	5		20
Methyl isobutyl ketone	94		96		70-130	2		20
2-Hexanone	93		96		70-130	3		20
Bromochloromethane	104		113		70-130	8		20
Tetrahydrofuran	116		118		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 12,14		Batch: WG1305928-3 WG1305928-4					
2,2-Dichloropropane	113		120		70-130	6		20
1,2-Dibromoethane	84		87		70-130	4		20
1,3-Dichloropropane	80		84		70-130	5		20
1,1,1,2-Tetrachloroethane	81		85		70-130	5		20
Bromobenzene	80		85		70-130	6		20
n-Butylbenzene	83		88		70-130	6		20
sec-Butylbenzene	83		88		70-130	6		20
tert-Butylbenzene	83		87		70-130	5		20
o-Chlorotoluene	77		82		70-130	6		20
p-Chlorotoluene	78		82		70-130	5		20
1,2-Dibromo-3-chloropropane	81		86		70-130	6		20
Hexachlorobutadiene	86		90		70-130	5		20
Isopropylbenzene	82		86		70-130	5		20
p-Isopropyltoluene	84		89		70-130	6		20
Naphthalene	81		87		70-130	7		20
n-Propylbenzene	82		87		70-130	6		20
1,2,3-Trichlorobenzene	84		90		70-130	7		20
1,2,4-Trichlorobenzene	86		93		70-130	8		20
1,3,5-Trimethylbenzene	80		85		70-130	6		20
1,2,4-Trimethylbenzene	79		84		70-130	6		20
Diethyl ether	107		113		70-130	5		20
Diisopropyl Ether	104		111		70-130	7		20
Ethyl-Tert-Butyl-Ether	104		112		70-130	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952035

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab	Associated sample(s): 12,14		Batch: WG1305928-3 WG1305928-4					
Tertiary-Amyl Methyl Ether	107		113		70-130	5		20
1,4-Dioxane	102		108		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		92		70-130
Toluene-d8	87		87		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	99		100		70-130

SEMIVOLATILES

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-19
Client ID: GLC-C14(A)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:15
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 11/06/19 05:26
Analyst: RC
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 11/05/19 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	76	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	76	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	76	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	76	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	ND		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	76	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	76	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	76	--	1
Benzo(a)anthracene	ND		ug/kg	110	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-19 Date Collected: 11/02/19 10:15

Client ID: GLC-C14(A)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	ND		ug/kg	140	--	1
Benzo(b)fluoranthene	ND		ug/kg	110	--	1
Benzo(k)fluoranthene	ND		ug/kg	110	--	1
Chrysene	ND		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	ND		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	ND		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	76	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	--	1
Pyrene	ND		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	76	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	76	--	1
2-Chlorophenol	ND		ug/kg	76	--	1
2,4-Dichlorophenol	ND		ug/kg	76	--	1
2,4-Dimethylphenol	ND		ug/kg	76	--	1
2-Nitrophenol	ND		ug/kg	390	--	1
4-Nitrophenol	ND		ug/kg	250	--	1
2,4-Dinitrophenol	ND		ug/kg	870	--	1
Pentachlorophenol	ND		ug/kg	360	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	200	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-19 Date Collected: 11/02/19 10:15

Client ID: GLC-C14(A)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	59		30-130
Phenol-d6	57		30-130
Nitrobenzene-d5	42		30-130
2-Fluorobiphenyl	41		30-130
2,4,6-Tribromophenol	73		30-130
4-Terphenyl-d14	41		30-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-22
Client ID: GLC-C14(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:45
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 11/06/19 08:35
Analyst: RC
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 11/05/19 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	140	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	76	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	76	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	76	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	76	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	420		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	76	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachloroethane	ND		ug/kg	76	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	76	--	1
Benzo(a)anthracene	290		ug/kg	110	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-22 Date Collected: 11/02/19 10:45

Client ID: GLC-C14(B)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	310		ug/kg	140	--	1
Benzo(b)fluoranthene	370		ug/kg	110	--	1
Benzo(k)fluoranthene	130		ug/kg	110	--	1
Chrysene	280		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	210		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	320		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	76	--	1
Indeno(1,2,3-cd)pyrene	220		ug/kg	140	--	1
Pyrene	400		ug/kg	110	--	1
Aniline	ND		ug/kg	220	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	97		ug/kg	76	--	1
Acetophenone	ND		ug/kg	180	--	1
2,4,6-Trichlorophenol	ND		ug/kg	76	--	1
2-Chlorophenol	ND		ug/kg	76	--	1
2,4-Dichlorophenol	ND		ug/kg	76	--	1
2,4-Dimethylphenol	ND		ug/kg	76	--	1
2-Nitrophenol	ND		ug/kg	390	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	870	--	1
Pentachlorophenol	ND		ug/kg	360	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	200	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-22 Date Collected: 11/02/19 10:45

Client ID: GLC-C14(B)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		30-130
Phenol-d6	70		30-130
Nitrobenzene-d5	55		30-130
2-Fluorobiphenyl	54		30-130
2,4,6-Tribromophenol	91		30-130
4-Terphenyl-d14	50		30-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-26
Client ID: GLC-C13(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 11/06/19 07:41
Analyst: RC
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 11/05/19 19:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	150	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	--	1
Hexachlorobenzene	ND		ug/kg	79	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	79	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
1,2-Dichlorobenzene	ND		ug/kg	190	--	1
1,3-Dichlorobenzene	ND		ug/kg	190	--	1
1,4-Dichlorobenzene	ND		ug/kg	79	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	--	1
2,4-Dinitrotoluene	ND		ug/kg	79	--	1
2,6-Dinitrotoluene	ND		ug/kg	190	--	1
Azobenzene	ND		ug/kg	190	--	1
Fluoranthene	620		ug/kg	110	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	79	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	190	--	1
Hexachloroethane	ND		ug/kg	79	--	1
Isophorone	ND		ug/kg	170	--	1
Naphthalene	ND		ug/kg	190	--	1
Nitrobenzene	ND		ug/kg	170	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	--	1
Butyl benzyl phthalate	ND		ug/kg	190	--	1
Di-n-butylphthalate	ND		ug/kg	190	--	1
Di-n-octylphthalate	ND		ug/kg	190	--	1
Diethyl phthalate	ND		ug/kg	190	--	1
Dimethyl phthalate	ND		ug/kg	79	--	1
Benzo(a)anthracene	390		ug/kg	110	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-26 Date Collected: 11/02/19 11:35

Client ID: GLC-C13(B)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(a)pyrene	390		ug/kg	150	--	1
Benzo(b)fluoranthene	490		ug/kg	110	--	1
Benzo(k)fluoranthene	160		ug/kg	110	--	1
Chrysene	390		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	150	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	220		ug/kg	150	--	1
Fluorene	ND		ug/kg	190	--	1
Phenanthrene	340		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	79	--	1
Indeno(1,2,3-cd)pyrene	240		ug/kg	150	--	1
Pyrene	560		ug/kg	110	--	1
Aniline	ND		ug/kg	230	--	1
4-Chloroaniline	ND		ug/kg	190	--	1
Dibenzofuran	ND		ug/kg	190	--	1
2-Methylnaphthalene	130		ug/kg	79	--	1
Acetophenone	ND		ug/kg	190	--	1
2,4,6-Trichlorophenol	ND		ug/kg	79	--	1
2-Chlorophenol	ND		ug/kg	79	--	1
2,4-Dichlorophenol	ND		ug/kg	79	--	1
2,4-Dimethylphenol	ND		ug/kg	79	--	1
2-Nitrophenol	ND		ug/kg	410	--	1
4-Nitrophenol	ND		ug/kg	260	--	1
2,4-Dinitrophenol	ND		ug/kg	900	--	1
Pentachlorophenol	ND		ug/kg	380	--	1
Phenol	ND		ug/kg	190	--	1
2-Methylphenol	ND		ug/kg	190	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	--	1
2,4,5-Trichlorophenol	ND		ug/kg	190	--	1
Pyridine	ND		ug/kg	200	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-26 Date Collected: 11/02/19 11:35

Client ID: GLC-C13(B)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		30-130
Phenol-d6	57		30-130
Nitrobenzene-d5	45		30-130
2-Fluorobiphenyl	50		30-130
2,4,6-Tribromophenol	95		30-130
4-Terphenyl-d14	48		30-130

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 11/06/19 01:50
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 11/05/19 19:00

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 19,22,26 Batch: WG1304951-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	68	--
Bis(2-chloroethyl)ether	ND		ug/kg	68	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	68	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	68	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	68	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	68	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	68	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 11/06/19 01:50
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 11/05/19 19:00

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 19,22,26 Batch: WG1304951-1					
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	68	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	68	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	68	--
2-Chlorophenol	ND		ug/kg	68	--
2,4-Dichlorophenol	ND		ug/kg	68	--
2,4-Dimethylphenol	ND		ug/kg	68	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 11/06/19 01:50
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 11/05/19 19:00

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 19,22,26 Batch: WG1304951-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		30-130
Phenol-d6	68		30-130
Nitrobenzene-d5	51		30-130
2-Fluorobiphenyl	54		30-130
2,4,6-Tribromophenol	81		30-130
4-Terphenyl-d14	54		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 19,22,26 Batch: WG1304951-2 WG1304951-3								
Acenaphthene	71		69		40-140	3		30
1,2,4-Trichlorobenzene	68		71		40-140	4		30
Hexachlorobenzene	80		82		40-140	2		30
Bis(2-chloroethyl)ether	64		62		40-140	3		30
2-Chloronaphthalene	71		73		40-140	3		30
1,2-Dichlorobenzene	67		69		40-140	3		30
1,3-Dichlorobenzene	68		65		40-140	5		30
1,4-Dichlorobenzene	65		64		40-140	2		30
3,3'-Dichlorobenzidine	45		44		40-140	2		30
2,4-Dinitrotoluene	79		82		40-140	4		30
2,6-Dinitrotoluene	73		80		40-140	9		30
Azobenzene	65		66		40-140	2		30
Fluoranthene	69		70		40-140	1		30
4-Bromophenyl phenyl ether	76		76		40-140	0		30
Bis(2-chloroisopropyl)ether	46		47		40-140	2		30
Bis(2-chloroethoxy)methane	63		63		40-140	0		30
Hexachlorobutadiene	67		68		40-140	1		30
Hexachloroethane	62		61		40-140	2		30
Isophorone	63		65		40-140	3		30
Naphthalene	69		69		40-140	0		30
Nitrobenzene	67		65		40-140	3		30
Bis(2-ethylhexyl)phthalate	74		78		40-140	5		30
Butyl benzyl phthalate	70		75		40-140	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 19,22,26 Batch: WG1304951-2 WG1304951-3								
Di-n-butylphthalate	70		73		40-140	4		30
Di-n-octylphthalate	78		80		40-140	3		30
Diethyl phthalate	74		74		40-140	0		30
Dimethyl phthalate	68		74		40-140	8		30
Benzo(a)anthracene	72		73		40-140	1		30
Benzo(a)pyrene	76		77		40-140	1		30
Benzo(b)fluoranthene	77		79		40-140	3		30
Benzo(k)fluoranthene	79		81		40-140	3		30
Chrysene	72		74		40-140	3		30
Acenaphthylene	71		76		40-140	7		30
Anthracene	70		71		40-140	1		30
Benzo(ghi)perylene	75		74		40-140	1		30
Fluorene	73		72		40-140	1		30
Phenanthrene	67		69		40-140	3		30
Dibenzo(a,h)anthracene	74		73		40-140	1		30
Indeno(1,2,3-cd)pyrene	74		75		40-140	1		30
Pyrene	67		70		40-140	4		30
Aniline	49		49		40-140	0		30
4-Chloroaniline	60		63		40-140	5		30
Dibenzofuran	73		72		40-140	1		30
2-Methylnaphthalene	70		73		40-140	4		30
Acetophenone	68		69		40-140	1		30
2,4,6-Trichlorophenol	77		80		30-130	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 19,22,26 Batch: WG1304951-2 WG1304951-3								
2-Chlorophenol	71		72		30-130	1		30
2,4-Dichlorophenol	75		80		30-130	6		30
2,4-Dimethylphenol	77		79		30-130	3		30
2-Nitrophenol	73		73		30-130	0		30
4-Nitrophenol	76		75		30-130	1		30
2,4-Dinitrophenol	**17**	Q	**12**	Q	30-130	**34**	Q	30
Pentachlorophenol	57		58		30-130	2		30
Phenol	69		72		30-130	4		30
2-Methylphenol	73		73		30-130	0		30
3-Methylphenol/4-Methylphenol	80		80		30-130	0		30
2,4,5-Trichlorophenol	76		80		30-130	5		30
Pyridine	55		50		30-130	10		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	63		63		30-130
Phenol-d6	62		62		30-130
Nitrobenzene-d5	45		46		30-130
2-Fluorobiphenyl	48		49		30-130
2,4,6-Tribromophenol	71		71		30-130
4-Terphenyl-d14	47		50		30-130

PETROLEUM HYDROCARBONS

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-19
Client ID: GLC-C14(A)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:15
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 11/05/19 01:42
Analyst: LL
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 11/04/19 12:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
DRO (C10-C36)	65300		ug/kg	36200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	63		40-140

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-22
Client ID: GLC-C14(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:45
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 11/04/19 00:04
Analyst: LL
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 11/03/19 12:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
DRO (C10-C36)	234000		ug/kg	36800	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	88		40-140

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-26
Client ID: GLC-C13(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 11/04/19 03:17
Analyst: LL
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 11/03/19 12:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
DRO (C10-C36)	177000		ug/kg	37700	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	94		40-140

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 11/03/19 23:32
Analyst: LL

Extraction Method: EPA 3546
Extraction Date: 11/03/19 12:33

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 19,22,26 Batch: WG1303978-1					
DRO (C10-C36)	ND		ug/kg	32300	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	92		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952035

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 19,22,26 Batch: WG1303978-2								
DRO (C10-C36)	83		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	74				40-140

Lab Duplicate Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 19,22,26 QC Batch ID: WG1303978-3 QC Sample: L1952035-22 Client ID: GLC-C14(B)-DC-COMP						
DRO (C10-C36)	234000	210000	ug/kg	11		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	88		80		40-140

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID:	L1952035-21	Date Collected:	11/02/19 10:30
Client ID:	GLC-C14(B)-DC-(6-10)	Date Received:	11/02/19
Sample Location:	WASHINGTON ST., SOMERVILLE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	11/03/19 11:50
Analytical Date:	11/04/19 13:18	Cleanup Method1:	EPH-04-1
Analyst:	LL	Cleanup Date1:	11/03/19
Percent Solids:	93%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	7.06	--	1
C19-C36 Aliphatics	ND		mg/kg	7.06	--	1
C11-C22 Aromatics	ND		mg/kg	7.06	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.06	--	1
Naphthalene	ND		mg/kg	0.353	--	1
2-Methylnaphthalene	ND		mg/kg	0.353	--	1
Acenaphthylene	ND		mg/kg	0.353	--	1
Acenaphthene	ND		mg/kg	0.353	--	1
Fluorene	ND		mg/kg	0.353	--	1
Phenanthrene	ND		mg/kg	0.353	--	1
Anthracene	ND		mg/kg	0.353	--	1
Fluoranthene	ND		mg/kg	0.353	--	1
Pyrene	ND		mg/kg	0.353	--	1
Benzo(a)anthracene	ND		mg/kg	0.353	--	1
Chrysene	ND		mg/kg	0.353	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.353	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.353	--	1
Benzo(a)pyrene	ND		mg/kg	0.353	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.353	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.353	--	1
Benzo(ghi)perylene	ND		mg/kg	0.353	--	1

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID:	L1952035-21	Date Collected:	11/02/19 10:30
Client ID:	GLC-C14(B)-DC-(6-10)	Date Received:	11/02/19
Sample Location:	WASHINGTON ST., SOMERVILLE, MA	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	65		40-140
o-Terphenyl	53		40-140
2-Fluorobiphenyl	58		40-140
2-Bromonaphthalene	59		40-140

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 11/04/19 06:30
Analyst: LL

Extraction Method: EPA 3546
Extraction Date: 11/03/19 11:50
Cleanup Method: EPH-04-1
Cleanup Date: 11/03/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 21 Batch: WG1303975-1					
C9-C18 Aliphatics	ND		mg/kg	6.53	--
C19-C36 Aliphatics	ND		mg/kg	6.53	--
C11-C22 Aromatics	ND		mg/kg	6.53	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.53	--
Naphthalene	ND		mg/kg	0.326	--
2-Methylnaphthalene	ND		mg/kg	0.326	--
Acenaphthylene	ND		mg/kg	0.326	--
Acenaphthene	ND		mg/kg	0.326	--
Fluorene	ND		mg/kg	0.326	--
Phenanthrene	ND		mg/kg	0.326	--
Anthracene	ND		mg/kg	0.326	--
Fluoranthene	ND		mg/kg	0.326	--
Pyrene	ND		mg/kg	0.326	--
Benzo(a)anthracene	ND		mg/kg	0.326	--
Chrysene	ND		mg/kg	0.326	--
Benzo(b)fluoranthene	ND		mg/kg	0.326	--
Benzo(k)fluoranthene	ND		mg/kg	0.326	--
Benzo(a)pyrene	ND		mg/kg	0.326	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.326	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.326	--
Benzo(ghi)perylene	ND		mg/kg	0.326	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	67		40-140
o-Terphenyl	59		40-140
2-Fluorobiphenyl	64		40-140
2-Bromonaphthalene	65		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 21 Batch: WG1303975-2 WG1303975-3								
C9-C18 Aliphatics	73		69		40-140	6		25
C19-C36 Aliphatics	77		73		40-140	5		25
C11-C22 Aromatics	56		58		40-140	4		25
Naphthalene	44		44		40-140	0		25
2-Methylnaphthalene	46		47		40-140	2		25
Acenaphthylene	48		48		40-140	0		25
Acenaphthene	49		50		40-140	2		25
Fluorene	50		52		40-140	4		25
Phenanthrene	52		54		40-140	4		25
Anthracene	54		56		40-140	4		25
Fluoranthene	56		57		40-140	2		25
Pyrene	57		58		40-140	2		25
Benzo(a)anthracene	56		59		40-140	5		25
Chrysene	56		59		40-140	5		25
Benzo(b)fluoranthene	58		60		40-140	3		25
Benzo(k)fluoranthene	56		59		40-140	5		25
Benzo(a)pyrene	56		58		40-140	4		25
Indeno(1,2,3-cd)Pyrene	57		60		40-140	5		25
Dibenzo(a,h)anthracene	56		59		40-140	5		25
Benzo(ghi)perylene	52		55		40-140	6		25
Nonane (C9)	64		60		30-140	6		25
Decane (C10)	70		65		40-140	7		25
Dodecane (C12)	71		66		40-140	7		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 21 Batch: WG1303975-2 WG1303975-3								
Tetradecane (C14)	69		66		40-140	4		25
Hexadecane (C16)	70		66		40-140	6		25
Octadecane (C18)	75		71		40-140	5		25
Nonadecane (C19)	73		69		40-140	6		25
Eicosane (C20)	74		71		40-140	4		25
Docosane (C22)	74		71		40-140	4		25
Tetracosane (C24)	72		69		40-140	4		25
Hexacosane (C26)	72		69		40-140	4		25
Octacosane (C28)	72		70		40-140	3		25
Triacontane (C30)	73		70		40-140	4		25
Hexatriacontane (C36)	76		73		40-140	4		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	68		64		40-140
o-Terphenyl	53		53		40-140
2-Fluorobiphenyl	58		61		40-140
2-Bromonaphthalene	59		62		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

PCBS

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-19
Client ID: GLC-C14(A)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:15
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 11/05/19 13:53
Analyst: HT
Percent Solids: 91%

Extraction Method: EPA 3540C
Extraction Date: 11/04/19 12:10
Cleanup Method: EPA 3665A
Cleanup Date: 11/05/19
Cleanup Method: EPA 3660B
Cleanup Date: 11/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.2	--	1	A
Aroclor 1221	ND		ug/kg	36.2	--	1	A
Aroclor 1232	ND		ug/kg	36.2	--	1	A
Aroclor 1242	ND		ug/kg	36.2	--	1	A
Aroclor 1248	ND		ug/kg	36.2	--	1	A
Aroclor 1254	ND		ug/kg	36.2	--	1	A
Aroclor 1260	ND		ug/kg	36.2	--	1	A
Aroclor 1262	ND		ug/kg	36.2	--	1	A
Aroclor 1268	ND		ug/kg	36.2	--	1	A
PCBs, Total	ND		ug/kg	36.2	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	79		30-150	B
2,4,5,6-Tetrachloro-m-xylene	55		30-150	A
Decachlorobiphenyl	67		30-150	A

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-22
Client ID: GLC-C14(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:45
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 11/05/19 05:12
Analyst: KB
Percent Solids: 90%

Extraction Method: EPA 3540C
Extraction Date: 11/03/19 21:10
Cleanup Method: EPA 3665A
Cleanup Date: 11/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 11/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.0	--	1	A
Aroclor 1221	ND		ug/kg	35.0	--	1	A
Aroclor 1232	ND		ug/kg	35.0	--	1	A
Aroclor 1242	ND		ug/kg	35.0	--	1	A
Aroclor 1248	ND		ug/kg	35.0	--	1	A
Aroclor 1254	ND		ug/kg	35.0	--	1	A
Aroclor 1260	ND		ug/kg	35.0	--	1	A
Aroclor 1262	ND		ug/kg	35.0	--	1	A
Aroclor 1268	ND		ug/kg	35.0	--	1	A
PCBs, Total	ND		ug/kg	35.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	55		30-150	B
Decachlorobiphenyl	73		30-150	B
2,4,5,6-Tetrachloro-m-xylene	60		30-150	A
Decachlorobiphenyl	61		30-150	A

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-26
Client ID: GLC-C13(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 11/05/19 05:24
Analyst: KB
Percent Solids: 87%

Extraction Method: EPA 3540C
Extraction Date: 11/03/19 21:10
Cleanup Method: EPA 3665A
Cleanup Date: 11/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 11/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.5	--	1	A
Aroclor 1221	ND		ug/kg	36.5	--	1	A
Aroclor 1232	ND		ug/kg	36.5	--	1	A
Aroclor 1242	ND		ug/kg	36.5	--	1	A
Aroclor 1248	ND		ug/kg	36.5	--	1	A
Aroclor 1254	ND		ug/kg	36.5	--	1	A
Aroclor 1260	ND		ug/kg	36.5	--	1	A
Aroclor 1262	ND		ug/kg	36.5	--	1	A
Aroclor 1268	ND		ug/kg	36.5	--	1	A
PCBs, Total	ND		ug/kg	36.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	78		30-150	B
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	64		30-150	A

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 11/05/19 07:09
Analyst: KB

Extraction Method: EPA 3540C
Extraction Date: 11/03/19 21:10
Cleanup Method: EPA 3665A
Cleanup Date: 11/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 11/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 19,22,26 Batch: WG1304052-1						
Aroclor 1016	ND		ug/kg	32.8	--	A
Aroclor 1221	ND		ug/kg	32.8	--	A
Aroclor 1232	ND		ug/kg	32.8	--	A
Aroclor 1242	ND		ug/kg	32.8	--	A
Aroclor 1248	ND		ug/kg	32.8	--	A
Aroclor 1254	ND		ug/kg	32.8	--	A
Aroclor 1260	ND		ug/kg	32.8	--	A
Aroclor 1262	ND		ug/kg	32.8	--	A
Aroclor 1268	ND		ug/kg	32.8	--	A
PCBs, Total	ND		ug/kg	32.8	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	88		30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	81		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952035

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 19,22,26 Batch: WG1304052-2 WG1304052-3									
Aroclor 1016	75		85		40-140	13		30	A
Aroclor 1260	74		79		40-140	7		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		74		30-150	B
Decachlorobiphenyl	74		83		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		68		30-150	A
Decachlorobiphenyl	71		80		30-150	A

METALS

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-19 Date Collected: 11/02/19 10:15

Client ID: GLC-C14(A)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 11/02/19 13:29

Matrix: Soil

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	11/05/19 16:03	11/05/19 18:29	EPA 3015	1,6010D	MC

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-19 Date Collected: 11/02/19 10:15

Client ID: GLC-C14(A)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	2.11	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Arsenic, Total	8.36		mg/kg	0.423	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Barium, Total	21.9		mg/kg	0.423	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Beryllium, Total	0.232		mg/kg	0.211	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.423	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Chromium, Total	14.0		mg/kg	0.423	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Lead, Total	13.8		mg/kg	2.11	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Mercury, Total	ND		mg/kg	0.083	--	1	11/04/19 21:41	11/05/19 14:32	EPA 7471B	97,7471B	GD
Nickel, Total	9.13		mg/kg	1.06	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.11	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.423	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.11	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Vanadium, Total	20.6		mg/kg	0.423	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC
Zinc, Total	102		mg/kg	2.11	--	1	11/04/19 23:17	11/05/19 16:46	EPA 3050B	97,6010D	LC

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-22 Date Collected: 11/02/19 10:45

Client ID: GLC-C14(B)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 11/02/19 13:29

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	11/05/19 16:03	11/05/19 19:24	EPA 3015	1,6010D	MC

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-22 Date Collected: 11/02/19 10:45

Client ID: GLC-C14(B)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	3.31		mg/kg	2.15	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Arsenic, Total	11.6		mg/kg	0.429	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Barium, Total	28.8		mg/kg	0.429	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Beryllium, Total	0.223		mg/kg	0.215	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.429	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Chromium, Total	13.4		mg/kg	0.429	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Lead, Total	124		mg/kg	2.15	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Mercury, Total	2.01		mg/kg	0.084	--	1	11/04/19 21:41	11/05/19 14:36	EPA 7471B	97,7471B	GD
Nickel, Total	9.54		mg/kg	1.07	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.15	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.429	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.15	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Vanadium, Total	12.2		mg/kg	0.429	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC
Zinc, Total	120		mg/kg	2.15	--	1	11/04/19 23:17	11/05/19 16:51	EPA 3050B	97,6010D	LC

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-26 Date Collected: 11/02/19 11:35

Client ID: GLC-C13(B)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 11/02/19 13:29

Matrix: Soil

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.500	--	1	11/05/19 16:03	11/05/19 19:39	EPA 3015	1,6010D	MC

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-26 Date Collected: 11/02/19 11:35

Client ID: GLC-C13(B)-DC-COMP Date Received: 11/02/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	3.84		mg/kg	2.29	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Arsenic, Total	10.6		mg/kg	0.458	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Barium, Total	45.9		mg/kg	0.458	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Beryllium, Total	0.307		mg/kg	0.229	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.458	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Chromium, Total	12.6		mg/kg	0.458	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Lead, Total	223		mg/kg	2.29	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Mercury, Total	0.202		mg/kg	0.074	--	1	11/04/19 21:41	11/05/19 14:39	EPA 7471B	97,7471B	GD
Nickel, Total	12.8		mg/kg	1.14	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	2.29	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.458	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	2.29	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Vanadium, Total	12.8		mg/kg	0.458	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC
Zinc, Total	171		mg/kg	2.29	--	1	11/04/19 23:17	11/05/19 16:55	EPA 3050B	97,6010D	LC

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 19,22,26 Batch: WG1304430-1										
Antimony, Total	ND		mg/kg	2.00	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Arsenic, Total	ND		mg/kg	0.400	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Barium, Total	ND		mg/kg	0.400	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Beryllium, Total	ND		mg/kg	0.200	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Chromium, Total	ND		mg/kg	0.400	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Lead, Total	ND		mg/kg	2.00	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Nickel, Total	ND		mg/kg	1.00	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Selenium, Total	ND		mg/kg	2.00	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Silver, Total	ND		mg/kg	0.400	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Thallium, Total	ND		mg/kg	2.00	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Vanadium, Total	ND		mg/kg	0.400	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC
Zinc, Total	ND		mg/kg	2.00	--	1	11/04/19 23:17	11/05/19 16:33	97,6010D	LC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 19,22,26 Batch: WG1304440-1										
Mercury, Total	ND		mg/kg	0.083	--	1	11/04/19 21:41	11/05/19 13:33	97,7471B	GD

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 19,22,26 Batch: WG1304868-1										
Lead, TCLP	ND		mg/l	0.500	--	1	11/05/19 16:03	11/05/19 18:15	1,6010D	LC

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 11/02/19 17:11

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952035

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 19,22,26 Batch: WG1304430-2 WG1304430-3 SRM Lot Number: D105-540								
Antimony, Total	178		164		19-249	8		30
Arsenic, Total	114		107		70-130	6		30
Barium, Total	104		99		75-125	5		30
Beryllium, Total	113		109		75-125	4		30
Cadmium, Total	100		97		75-125	3		30
Chromium, Total	103		97		70-130	6		30
Lead, Total	105		98		71-128	7		30
Nickel, Total	103		98		70-131	5		30
Selenium, Total	111		103		63-137	7		30
Silver, Total	107		100		69-131	7		30
Thallium, Total	101		104		68-132	3		30
Vanadium, Total	97		90		65-135	7		30
Zinc, Total	108		100		70-130	8		30
MCP Total Metals - Mansfield Lab Associated sample(s): 19,22,26 Batch: WG1304440-2 WG1304440-3 SRM Lot Number: D105-540								
Mercury, Total	91		99		60-141	8		30
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 19,22,26 Batch: WG1304868-2								
Lead, TCLP	97		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 19,22,26 QC Batch ID: WG1304868-3 QC Sample: L1952035-19 Client ID: GLC-C14(A)-DC-COMP												
Lead, TCLP	ND	5.1	4.83	95		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952035

Report Date: 11/07/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 19,22,26 QC Batch ID: WG1304868-4 QC Sample: L1952035-19 Client ID: GLC-C14(A)-DC-COMP						
Lead, TCLP	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-19
Client ID: GLC-C14(A)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:15
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	11/05/19 06:55	1,1030	MV

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-22
Client ID: GLC-C14(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 10:45
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Medium
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	11/04/19 07:59	1,1030	MV

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-26
Client ID: GLC-C13(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Test Material Information

Source of Material: Unknown
Description of Material: Non-Metallic - Damp Soil
Particle Size: Medium
Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	11/04/19 07:59	1,1030	MV

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-01
Client ID: GLX-TPW-606 (0-2)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:00
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.8		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-02
Client ID: GLX-TPW-606 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:00
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-03
Client ID: GLX-TPW-606 (2-5)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:05
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.4		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-04
Client ID: GLX-TPW-606 (4)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:05
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.1		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-05
Client ID: GLX-TPW-608 (0-2)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:15
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.0		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-06
Client ID: GLX-TPW-608 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:15
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.0		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-07
Client ID: GLX-TPW-608 (2-5)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:20
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.3		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-08
Client ID: GLX-TPW-608 (4)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:20
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.1		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-09
Client ID: GLX-TPW-609 (0-2)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:30
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.2		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-10
Client ID: GLX-TPW-609 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil
Date Collected: 11/02/19 08:30
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-11
Client ID: GLX-TPW-609 (2-5)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:35
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.1		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-12
Client ID: GLX-TPW-609 (4)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 08:35
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-13
Client ID: GLX-TPW-610 (0-2)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 09:05
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.2		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-14
Client ID: GLX-TPW-610 (1)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 09:05
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.4		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-15
Client ID: GLX-TPW-610 (2-5)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 09:10
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.5		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-16
Client ID: GLX-TPW-610 (3)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil
Date Collected: 11/02/19 09:10
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.0		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-17
Client ID: GLX-TPW-610 (5-8)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 09:15
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.3		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-18
Client ID: GLX-TPW-610 (7)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil
Date Collected: 11/02/19 09:15
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.4		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-19
Client ID: GLC-C14(A)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 10:15
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	ND		umhos/cm	10	--	1	-	11/04/19 21:04	1,9050A	AS
Solids, Total	91.0		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA
pH (H)	6.4		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS
Cyanide, Reactive	ND		mg/kg	10	--	1	11/05/19 03:55	11/05/19 05:16	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	11/05/19 03:55	11/05/19 05:09	125,7.3	KF

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-20
Client ID: GLC-C14(A)-DC-VOC (10)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 10:15
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.7		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-21
Client ID: GLC-C14(B)-DC-(6-10)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 10:30
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.1		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-22
Client ID: GLC-C14(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 10:45
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	46		umhos/cm	10	--	1	-	11/04/19 05:19	1,9050A	DS
Solids, Total	90.3		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA
pH (H)	7.0		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS
Cyanide, Reactive	ND		mg/kg	10	--	1	11/04/19 02:30	11/04/19 05:15	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	11/04/19 02:30	11/04/19 05:05	125,7.3	KF

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-23
Client ID: GLC-C14(B)-DC-VOC (12)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 10:45
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.2		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-24
Client ID: GLC-C13(A)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 11:10
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	5.7		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-25
Client ID: GLC-C13(A)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 11:10
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.9		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-26
Client ID: GLC-C13(B)-DC-COMP
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	20		umhos/cm	10	--	1	-	11/04/19 05:19	1,9050A	DS
Solids, Total	87.4		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA
pH (H)	5.8		SU	-	NA	1	-	11/04/19 03:35	1,9045D	DS
Cyanide, Reactive	ND		mg/kg	10	--	1	11/04/19 02:30	11/04/19 05:16	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	--	1	11/04/19 02:30	11/04/19 05:06	125,7.3	KF

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952035
Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952035-27
Client ID: GLC-C13(B)-DC-VOC (9)
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/02/19 11:35
Date Received: 11/02/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.6		%	0.100	NA	1	-	11/05/19 03:24	121,2540G	YA

Project Name: LSP; WASHINGTON ST PHASE 2 **Lab Number:** L1952035

Project Number: 310142.0002.0000 **Report Date:** 11/07/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 22,26 Batch: WG1304084-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	11/04/19 02:30	11/04/19 05:01	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 22,26 Batch: WG1304085-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	11/04/19 02:30	11/04/19 05:10	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 19 Batch: WG1304520-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	11/05/19 03:55	11/05/19 05:07	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 19 Batch: WG1304521-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	11/05/19 03:55	11/05/19 05:15	125,7.3	KF

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952035

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,05,07,09,11,13,15,17,19,22,24,26 Batch: WG1304078-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 22,26 Batch: WG1304079-1								
Specific Conductance	101		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 22,26 Batch: WG1304084-2								
Sulfide, Reactive	96		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 22,26 Batch: WG1304085-2								
Cyanide, Reactive	41		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 19 Batch: WG1304455-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 19 Batch: WG1304520-2								
Sulfide, Reactive	76		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 19 Batch: WG1304521-2								
Cyanide, Reactive	39		-		30-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: LSP; WASHINGTON ST PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952035

Report Date: 11/07/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,05,07,09,11,13,15,17,19,22,24,26 QC Batch ID: WG1304078-2 QC Sample: L1952035-22 Client ID: GLC-C14(B)-DC-COMP						
pH (H)	7.0	6.9	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 22,26 QC Batch ID: WG1304079-2 QC Sample: L1952035-22 Client ID: GLC-C14(B)-DC-COMP						
Specific Conductance @ 25 C	46	44	umhos/cm	4		20
General Chemistry - Westborough Lab Associated sample(s): 02,04,06,08,10,12,14,16,18-23,25-27 QC Batch ID: WG1304504-1 QC Sample: L1952035-04 Client ID: GLX-TPW-606 (4)						
Solids, Total	90.1	90.2	%	0		20

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952035-01A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)
L1952035-01B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-01C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-02A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-02B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-02C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-02D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-03A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)
L1952035-03B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-03C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-04A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-04B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-04C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-04D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-05A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)
L1952035-05B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-05C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-06A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-06B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-06C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-06D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952035-07A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)
L1952035-07B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-07C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-08A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-08B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-08C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-08D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-09A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)
L1952035-09B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-09C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-10A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-10B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-10C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-10D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-11A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)
L1952035-11B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-11C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-12A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-12B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-12C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-12D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-12E	25 gram Encore Sampler	A	NA		4.4	Y	Absent		HOLD-8260HLG(14)
L1952035-12F	25 gram Encore Sampler	A	NA		4.4	Y	Absent		HOLD-8260HLG(14)
L1952035-12S	Vial Water preserved split	A	NA		4.4	Y	Absent	03-NOV-19 12:21	HOLD-8260HLG(14)
L1952035-12T	Vial Water preserved split	A	NA		4.4	Y	Absent	03-NOV-19 12:21	HOLD-8260HLG(14)
L1952035-13A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)

*Values in parentheses indicate holding time in days

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Lab Number: L1952035
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952035-13B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-13C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-14A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-14B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-14C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-14D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-14E	25 gram Encore Sampler	A	NA		4.4	Y	Absent		HOLD-8260HLG(14)
L1952035-14F	25 gram Encore Sampler	A	NA		4.4	Y	Absent		HOLD-8260HLG(14)
L1952035-14S	Vial Water preserved split	A	NA		4.4	Y	Absent	03-NOV-19 12:21	HOLD-8260HLG(14)
L1952035-14T	Vial Water preserved split	A	NA		4.4	Y	Absent	03-NOV-19 12:21	HOLD-8260HLG(14)
L1952035-15A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)
L1952035-15B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-15C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-16A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-16B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-16C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-16D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-17A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)
L1952035-17B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-17C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-18A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-18B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-18C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-18D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: LSP; WASHINGTON ST PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952035
Report Date: 11/07/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952035-19A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-7471T-10(28),MCP-TL-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L1952035-19B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8270-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L1952035-19C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8270-10(14),TS(7),MCP-8082-10-3540C(365),PH-9045(1),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L1952035-19X	Plastic 120ml HNO3 preserved Extracts	A	NA		4.4	Y	Absent		PB-CI(180)
L1952035-19X9	Tumble Vessel	A	NA		4.4	Y	Absent		-
L1952035-20A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-20B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-20C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-20D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-21A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		TS(7),EPH-DELUX-10(14)
L1952035-22A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-V-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L1952035-22B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L1952035-22C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		REACTS(14),IGNIT-1030(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),TPH-DRO-D(14),REACTCN(14),COND-9050(28)
L1952035-22X	Plastic 120ml HNO3 preserved Extracts	A	NA		4.4	Y	Absent		PB-CI(180)
L1952035-22X9	Tumble Vessel	A	NA		4.4	Y	Absent		-
L1952035-23A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952035-23B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-23C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-23D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-24A	Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		HOLD-METAL(180)
L1952035-24B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-24C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		HOLD-WETCHEM(),PH-9045(1),HOLD-8270(14)
L1952035-25A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260HLW-10(14)
L1952035-25B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-25C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260HLW-10(14)
L1952035-25D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L1952035-26A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-7471T-10(28),MCP-SB-6010T-10(180),MCP-AG-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180)
L1952035-26B	Glass 250ml/8oz unpreserved	A	NA		4.4	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L1952035-26C	Glass 500ml/16oz unpreserved	A	NA		4.4	Y	Absent		IGNIT-1030(14),REACTS(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP-8082-10-3540C(365),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L1952035-26X	Plastic 120ml HNO3 preserved Extracts	A	NA		4.4	Y	Absent		PB-CI(180)
L1952035-26X9	Tumble Vessel	A	NA		4.4	Y	Absent		-
L1952035-27A	Vial MeOH preserved	A	NA		4.4	Y	Absent		MCP-8260H-10(14),MCP-8260HLW-10(14)
L1952035-27B	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1952035-27C	Vial water preserved	A	NA		4.4	Y	Absent	02-NOV-19 18:48	MCP-8260H-10(14),MCP-8260HLW-10(14)
L1952035-27D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name:	LSP; WASHINGTON ST PHASE 2	**Lab Number:**	L1952035
Project Number:	310142.0002.0000	**Report Date:**	11/07/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	LSP; WASHINGTON ST PHASE 2	**Lab Number:**	L1952035
Project Number:	310142.0002.0000	**Report Date:**	11/07/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	LSP; WASHINGTON ST PHASE 2	**Lab Number:**	L1952035
Project Number:	310142.0002.0000	**Report Date:**	11/07/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/2/19

ALPHA Job #: L1952033

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☑ Rush (ONLY IF PRE-APPROVED) 3 DAY TAT

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and RIyer@trccompanies.com

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 144888

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	Ignitability via 1030, pH via 9045	TPH via 80150C GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metasl via 6010C/7471B	Reactivity Sulfide & Cyanide via 7.3	tclp Lead	SVOCs via 8270D	Specific Conductance via 9050			Sample Specific Comments
L1952033-01	GLX-TPW-606(0-2)	11/2/19	0800	Soil	BA	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	HOLD; run pH
-02	GLX-TPW-606(1)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-03	GLX-TPW-606(2-5)		0805			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	HOLD; run pH
-04	GLX-TPW-606(4)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-05	GLX-TPW-608(0-2)		0815			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	HOLD; run pH
-06	GLX-TPW-608(1)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-07	GLX-TPW-608(2-5)		0820			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	HOLD; run pH
-08	GLX-TPW-608(4)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-09	GLX-TPW-609(0-2)		0830			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	HOLD; run pH
-10	GLX-TPW-609(1)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	Container Type					-	-	-	-	-	-	-	-	-	-	-	-	
	Preservative					-	-	-	-	-	-	-	-	-	-	-	-	

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 3-Mar-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	11/2/19 1520		11/2/19 1520
	11/2/19 1734		11/2/19 1735

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/7/19

ALPHA Job #: L1952035

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 144888

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and RIyer@trccompanies.com
Run TCLP VOC if fail 20X rule

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	Ignitability via 1030, pH via 9045	TPH via 80150C GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactivive Sulfide & Cyanide via 7.3	tclp Lead	SVOCs via 8270D	Specific Conductance via 9050	TCLP VOC	Sample Specific Comments
52035-11	GLX-TPW-609(2-5)	11/2/19	0835	Soil	BA	☐	☐	☒	☒	☒	☒	☒	☒	☒	☐	☐	HOLD; Run pH
-12	GLX-TPW-609 (4)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☒	
-13	GLX-TPW-610(0-2)		0905			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	HOLD; Run PH
-14	GLX-TPW-610 (1)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☒	
-15	GLX-TPW-610(2-5)		0910			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	HOLD; Run PH
-16	GLX-TPW-610(9)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-17	GLX-TPW-610(5-8)		0915			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	HOLD; Run PH
-18	GLX-TPW-610(7)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-19	GLX-C14(A)-DC-COMP		1015			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	
-20	GLX-C14(A)-DC-VOC(10)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	Container Type					-	-	-	-	-	-	-	-	-	-	-	
	Preservative					-	-	-	-	-	-	-	-	-	-	-	

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	11/2/19 1510		11/5/19 1520
	11/5/19		11/7/19 1135

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/2/19

ALPHA Job #: L1952035

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 144888

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and Riyer@trccompanies.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	Ignitability via 1030, pH via 9045	TPH via 80150C GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metasl via 6010C/7471B	Rectivive Sulfide & Cyanide via 7.3	tclp Lead	SVOCs via 8270D	Specific Conductance via 9050		EPH	Sample Specific Comments
52035-21	GLC-C14(A)-DC(C-10)	11/2/19	1030	Soil	BA	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	
-22	GLC-C14(B)-DC-Comp		1045			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	
-23	GLC-C14(B)-DC-VOC(12)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-24	GLC-C13(A)-DC-Comp		1110			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	Hold; run pH
-25	GLC-C13(A)-DC-VOC(9)		↓			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
-26	GLC-C13(B)-DC-Comp		1135			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	
-27	GLC-C13(B)-DC-VOC(9)	↓	↓	↓	↓	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Container Type	-	-	-	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

FORM NO: 01-01(I) (rev. 3-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
	11/2/19 1524		11/2/19 1500
	11/2/19 1700		11/2/19 1725

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1304637-5	**Lab File ID**	: V23191104B04
Instrument ID	: VOA123		
Matrix	: SOIL	**Analysis Date**	: 11/04/19 19:43

Client Sample No.	Lab Sample ID	Analysis Date
WG1304637-3LCS	WG1304637-3	11/04/19 18:30
WG1304637-4LCSD	WG1304637-4	11/04/19 18:54
GLX-TPW-608 (4)	L1952035-08	11/04/19 21:42
GLX-TPW-609 (1)	L1952035-10	11/04/19 22:06
GLX-TPW-610 (3)	L1952035-16	11/04/19 22:30
GLX-TPW-610 (7)	L1952035-18	11/04/19 22:54
GLC-C14(A)-DC-VOC (10)	L1952035-20	11/04/19 23:18
GLC-C14(B)-DC-VOC (12)	L1952035-23	11/04/19 23:43
GLC-C13(B)-DC-VOC (9)	L1952035-27	11/05/19 00:07
GLX-TPW-606 (4)	L1952035-04	11/05/19 00:55
GLX-TPW-608 (1)	L1952035-06	11/05/19 01:19
GLC-C13(A)-DC-VOC (9)	L1952035-25	11/05/19 04:08

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1305198-5	**Lab File ID**	: V26191105A03
Instrument ID	: VOA126		
Matrix	: SOIL	**Analysis Date**	: 11/05/19 16:53

Client Sample No.	Lab Sample ID	Analysis Date
WG1305198-3LCS	WG1305198-3	11/05/19 15:35
WG1305198-4LCSD	WG1305198-4	11/05/19 16:14
GLX-TPW-606 (1)	L1952035-02	11/05/19 18:12
GLX-TPW-609 (1)	L1952035-10R	11/05/19 18:51
GLC-C14(B)-DC-VOC (12)	L1952035-23R	11/05/19 19:30
GLC-C13(A)-DC-VOC (9)	L1952035-25R	11/05/19 20:10
GLC-C13(B)-DC-VOC (9)	L1952035-27R	11/05/19 20:49

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1305356-5	**Lab File ID**	: V11191106B05
Instrument ID	: VOA111		
Matrix	: SOIL	**Analysis Date**	: 11/06/19 11:19

Client Sample No.	Lab Sample ID	Analysis Date
WG1305356-3LCS	WG1305356-3	11/06/19 10:03
WG1305356-4LCSD	WG1305356-4	11/06/19 10:28
GLC-C13(B)-DC-VOC (9)	L1952035-27	11/06/19 13:27

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1305928-5	**Lab File ID**	: V11191107A05
Instrument ID	: VOA111		
Matrix	: SOIL	**Analysis Date**	: 11/07/19 08:57

Client Sample No.	Lab Sample ID	Analysis Date
WG1305928-3LCS	WG1305928-3	11/07/19 07:17
WG1305928-4LCSD	WG1305928-4	11/07/19 07:42
GLX-TPW-609 (4)	L1952035-12	11/07/19 12:28
GLX-TPW-610 (1)	L1952035-14	11/07/19 14:34
GLX-TPW-610 (1)	L1952035-14R	11/07/19 15:50

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA123	**Calibration Date**	: 11/04/19 18:30		
Lab File ID	: V23191104B01	**Init. Calib. Date(s)**	: 06/21/19	06/21/19	
Sample No	: WG1304637-2	**Init. Calib. Times**	: 03:09	06:33	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	85	-.02
Dichlorodifluoromethane	0.268	0.167	-	37.7*	20	51	0
Chloromethane	0.275	0.26	-	5.5	20	81	0
Vinyl chloride	0.312	0.244	-	21.8*	20	64	0
Bromomethane	0.233	0.156	-	33*	20	62	0
Chloroethane	0.235	0.141	-	40*	20	52	0
Trichlorofluoromethane	0.429	0.322	-	24.9*	20	61	0
Ethyl ether	0.143	0.143	-	0	20	86	0
1,1-Dichloroethene	0.214	0.211	-	1.4	20	82	0
Carbon disulfide	0.725	0.669	-	7.7	20	80	0
Freon-113	0.216	0.214	-	0.9	20	81	0
Acrolein	0.05	0.055	-	-10	20	98	-.01
Methylene chloride	0.28	0.261	-	6.8	20	88	-.01
Acetone	40	58.534	-	-46.3*	20	124	-.02
trans-1,2-Dichloroethene	0.245	0.259	-	-5.7	20	89	0
Methyl acetate	0.187	0.266	-	-42.2*	20	124	-.02
Methyl tert-butyl ether	0.725	0.761	-	-5	20	89	-.02
tert-Butyl alcohol	0.038	0.042*	-	-10.5	20	96	-.02
Diisopropyl ether	0.748	1.02	-	-36.4*	20	116	-.02
1,1-Dichloroethane	0.436	0.487	-	-11.7	20	94	-.01
Halothane	0.182	0.204	-	-12.1	20	92	-.02
Acrylonitrile	0.093	0.11	-	-18.3	20	100	-.01
Ethyl tert-butyl ether	0.763	0.87	-	-14	20	97	-.02
Vinyl acetate	0.662	0.743	-	-12.2	20	96	-.02
cis-1,2-Dichloroethene	0.275	0.291	-	-5.8	20	89	-.02
2,2-Dichloropropane	0.366	0.406	-	-10.9	20	93	-.02
Bromochloromethane	0.134	0.141	-	-5.2	20	89	-.01
Cyclohexane	0.39	0.408	-	-4.6	20	88	-.01
Chloroform	0.43	0.487	-	-13.3	20	95	-.01
Ethyl acetate	0.3	0.386	-	-28.7*	20	114	-.02
Carbon tetrachloride	0.331	0.384	-	-16	20	95	-.02
Tetrahydrofuran	0.106	0.139	-	-31.1*	20	116	-.03
Dibromofluoromethane	0.262	0.273	-	-4.2	20	87	-.02
1,1,1-Trichloroethane	0.365	0.43	-	-17.8	20	95	-.02
2-Butanone	0.139	0.181	-	-30.2*	20	125	-.02
1,1-Dichloropropene	0.318	0.349	-	-9.7	20	89	-.01
Benzene	0.959	1.027	-	-7.1	20	90	-.01
tert-Amyl methyl ether	0.734	0.772	-	-5.2	20	89	-.02
1,2-Dichloroethane-d4	0.29	0.307	-	-5.9	20	92	-.02
1,2-Dichloroethane	0.342	0.391	-	-14.3	20	98	-.02
Methyl cyclohexane	0.415	0.404	-	2.7	20	81	-.02
Trichloroethene	0.249	0.28	-	-12.4	20	94	-.02
Dibromomethane	0.164	0.176	-	-7.3	20	91	-.02

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA123	**Calibration Date**	: 11/04/19 18:30		
Lab File ID	: V23191104B01	**Init. Calib. Date(s)**	: 06/21/19	06/21/19	
Sample No	: WG1304637-2	**Init. Calib. Times**	: 03:09	06:33	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.274	-	-7.9	20	91	-.02
2-Chloroethyl vinyl ether	0.185	0.193	-	-4.3	20	86	-.02
Bromodichloromethane	0.327	0.387	-	-18.3	20	95	-.02
1,4-Dioxane	0.00343	0.00411*	-	-19.8	20	100	-.02
cis-1,3-Dichloropropene	0.404	0.45	-	-11.4	20	90	-.02
Chlorobenzene-d5	1	1	-	0	20	88	-.02
Toluene-d8	1.211	1.131	-	6.6	20	82	-.02
Toluene	0.75	0.766	-	-2.1	20	91	-.02
4-Methyl-2-pentanone	0.137	0.143	-	-4.4	20	92	-.02
Tetrachloroethene	0.306	0.337	-	-10.1	20	94	-.02
trans-1,3-Dichloropropene	0.447	0.479	-	-7.2	20	92	-.02
Ethyl methacrylate	0.415	0.411	-	1	20	86	-.02
1,1,2-Trichloroethane	0.237	0.233	-	1.7	20	87	-.02
Chlorodibromomethane	0.311	0.346	-	-11.3	20	94	-.02
1,3-Dichloropropane	0.475	0.474	-	0.2	20	88	-.02
1,2-Dibromoethane	0.286	0.292	-	-2.1	20	89	-.02
2-Hexanone	0.245	0.302	-	-23.3*	20	112	-.03
Chlorobenzene	0.845	0.886	-	-4.9	20	92	-.02
Ethylbenzene	1.401	1.503	-	-7.3	20	94	-.02
1,1,1,2-Tetrachloroethane	0.297	0.327	-	-10.1	20	93	-.02
p/m Xylene	0.545	0.586	-	-7.5	20	93	-.02
o Xylene	0.539	0.572	-	-6.1	20	92	-.02
Styrene	0.876	0.957	-	-9.2	20	92	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	91	-.02
Bromoform	0.424	0.428	-	-0.9	20	96	-.02
Isopropylbenzene	2.578	2.707	-	-5	20	93	-.02
4-Bromofluorobenzene	0.913	0.896	-	1.9	20	90	-.02
Bromobenzene	0.679	0.688	-	-1.3	20	93	-.02
n-Propylbenzene	3.032	3.209	-	-5.8	20	93	-.02
1,4-Dichlorobutane	0.91	0.97	-	-6.6	20	99	-.02
1,1,2,2-Tetrachloroethane	0.726	0.689	-	5.1	20	84	-.02
4-Ethyltoluene	2.552	2.831	-	-10.9	20	98	-.02
2-Chlorotoluene	2.106	2.227	-	-5.7	20	96	-.02
1,3,5-Trimethylbenzene	2.162	2.299	-	-6.3	20	95	-.02
1,2,3-Trichloropropane	0.612	0.592	-	3.3	20	90	-.02
trans-1,4-Dichloro-2-buten	0.212	0.243	-	-14.6	20	104	-.02
4-Chlorotoluene	1.897	2.034	-	-7.2	20	97	-.02
tert-Butylbenzene	1.876	1.942	-	-3.5	20	92	-.02
1,2,4-Trimethylbenzene	2.172	2.316	-	-6.6	20	95	-.02
sec-Butylbenzene	2.799	2.92	-	-4.3	20	92	-.02
p-Isopropyltoluene	2.388	2.537	-	-6.2	20	94	-.02
1,3-Dichlorobenzene	1.306	1.378	-	-5.5	20	95	-.02
1,4-Dichlorobenzene	1.32	1.372	-	-3.9	20	95	-.02

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA123	**Calibration Date**	: 11/04/19 18:30		
Lab File ID	: V23191104B01	**Init. Calib. Date(s)**	: 06/21/19	06/21/19	
Sample No	: WG1304637-2	**Init. Calib. Times**	: 03:09	06:33	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.609	-	-9.8	20	98	-.02
n-Butylbenzene	2.231	2.416	-	-8.3	20	96	-.02
1,2-Dichlorobenzene	1.255	1.279	-	-1.9	20	92	-.01
1,2,4,5-Tetramethylbenzene	2.325	2.544	-	-9.4	20	96	-.02
1,2-Dibromo-3-chloropropan	0.136	0.128	-	5.9	20	84	-.02
1,3,5-Trichlorobenzene	0.913	1.054	-	-15.4	20	103	-.02
Hexachlorobutadiene	0.428	0.451	-	-5.4	20	93	-.01
1,2,4-Trichlorobenzene	0.862	0.928	-	-7.7	20	96	-.01
Naphthalene	2.486	2.286	-	8	20	82	-.02
1,2,3-Trichlorobenzene	0.842	0.85	-	-1	20	90	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA126	**Calibration Date**	: 11/05/19 15:35		
Lab File ID	: V26191105A01	**Init. Calib. Date(s)**	: 08/20/19	08/20/19	
Sample No	: WG1305198-2	**Init. Calib. Times**	: 02:02	07:17	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	66	-.02
Dichlorodifluoromethane	0.127	0.117	-	7.9	20	60	0
Chloromethane	0.216	0.212	-	1.9	20	77	0
Vinyl chloride	0.202	0.181	-	10.4	20	59	0
Bromomethane	0.125	0.133	-	-6.4	20	79	0
Chloroethane	0.122	0.128	-	-4.9	20	71	-.02
Trichlorofluoromethane	0.246	0.235	-	4.5	20	62	-.01
Ethyl ether	0.1	0.106	-	-6	20	72	-.02
1,1-Dichloroethene	0.159	0.159	-	0	20	67	0
Carbon disulfide	0.567	0.529	-	6.7	20	66	-.01
Freon-113	0.157	0.156	-	0.6	20	64	-.01
Acrolein	0.035	0.039*	-	-11.4	20	75	-.01
Methylene chloride	40	40.282	-	-0.7	20	67	0
Acetone	40	46.557	-	-16.4	20	77	-.02
trans-1,2-Dichloroethene	0.193	0.193	-	0	20	68	-.02
Methyl acetate	0.132	0.165	-	-25*	20	89	-.02
Methyl tert-butyl ether	0.501	0.528	-	-5.4	20	72	-.03
tert-Butyl alcohol	0.021	0.023*	-	-9.5	20	78	-.02
Diisopropyl ether	0.713	0.794	-	-11.4	20	76	-.02
1,1-Dichloroethane	0.358	0.366	-	-2.2	20	70	-.01
Halothane	0.158	0.155	-	1.9	20	65	-.02
Acrylonitrile	0.064	0.074	-	-15.6	20	79	-.01
Ethyl tert-butyl ether	0.626	0.658	-	-5.1	20	71	-.03
Vinyl acetate	0.402	0.294	-	26.9*	20	49	-.01
cis-1,2-Dichloroethene	0.219	0.216	-	1.4	20	68	-.02
2,2-Dichloropropane	0.257	0.266	-	-3.5	20	70	-.01
Bromochloromethane	0.102	0.101	-	1	20	69	-.01
Cyclohexane	0.314	0.343	-	-9.2	20	70	0
Chloroform	0.356	0.339	-	4.8	20	67	-.02
Ethyl acetate	40	36.961	-	7.6	20	62	-.02
Carbon tetrachloride	0.248	0.238	-	4	20	63	-.01
Tetrahydrofuran	0.057	0.066	-	-15.8	20	82	-.03
Dibromofluoromethane	0.252	0.216	-	14.3	20	57	-.02
1,1,1-Trichloroethane	0.287	0.277	-	3.5	20	65	-.02
2-Butanone	0.085	0.097*	-	-14.1	20	81	-.03
1,1-Dichloropropene	0.251	0.254	-	-1.2	20	66	-.01
Benzene	0.811	0.799	-	1.5	20	70	-.01
tert-Amyl methyl ether	0.549	0.562	-	-2.4	20	69	-.03
1,2-Dichloroethane-d4	0.266	0.243	-	8.6	20	61	-.02
1,2-Dichloroethane	0.267	0.251	-	6	20	66	-.01
Methyl cyclohexane	0.307	0.315	-	-2.6	20	66	-.01
Trichloroethene	0.199	0.206	-	-3.5	20	71	-.02
Dibromomethane	0.118	0.113	-	4.2	20	67	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA126	**Calibration Date**	: 11/05/19 15:35		
Lab File ID	: V26191105A01	**Init. Calib. Date(s)**	: 08/20/19	08/20/19	
Sample No	: WG1305198-2	**Init. Calib. Times**	: 02:02	07:17	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.21	0.219	-	-4.3	20	72	-.02
2-Chloroethyl vinyl ether	0.106	0.117	-	-10.4	20	72	-.02
Bromodichloromethane	0.271	0.255	-	5.9	20	65	-.02
1,4-Dioxane	0.00195	0.00228*	-	-16.9	20	69	-.03
cis-1,3-Dichloropropene	0.312	0.277	-	11.2	20	60	-.01
Chlorobenzene-d5	1	1	-	0	20	67	-.02
Toluene-d8	1.317	1.213	-	7.9	20	61	-.02
Toluene	0.664	0.659	-	0.8	20	69	-.02
4-Methyl-2-pentanone	0.093	0.105	-	-12.9	20	74	-.02
Tetrachloroethene	0.269	0.254	-	5.6	20	65	-.02
trans-1,3-Dichloropropene	0.353	0.316	-	10.5	20	60	-.02
Ethyl methacrylate	0.304	0.315	-	-3.6	20	68	-.01
1,1,2-Trichloroethane	0.186	0.184	-	1.1	20	69	-.02
Chlorodibromomethane	0.255	0.247	-	3.1	20	66	-.02
1,3-Dichloropropane	0.38	0.364	-	4.2	20	67	-.02
1,2-Dibromoethane	0.211	0.208	-	1.4	20	68	0
2-Hexanone	0.177	0.194	-	-9.6	20	74	-.01
Chlorobenzene	0.767	0.744	-	3	20	70	-.02
Ethylbenzene	1.231	1.256	-	-2	20	69	-.01
1,1,1,2-Tetrachloroethane	0.261	0.261	-	0	20	70	0
p/m Xylene	0.488	0.497	-	-1.8	20	70	-.01
o Xylene	0.473	0.481	-	-1.7	20	70	-.02
Styrene	0.762	0.818	-	-7.3	20	71	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	68	-.01
Bromoform	0.303	0.281	-	7.3	20	64	-.02
Isopropylbenzene	2.378	2.421	-	-1.8	20	69	-.02
4-Bromofluorobenzene	0.95	0.9	-	5.3	20	65	-.01
Bromobenzene	0.606	0.587	-	3.1	20	69	0
n-Propylbenzene	2.832	2.89	-	-2	20	69	0
1,4-Dichlorobutane	0.773	0.79	-	-2.2	20	72	0
1,1,2,2-Tetrachloroethane	0.574	0.527	-	8.2	20	66	0
4-Ethyltoluene	2.467	2.54	-	-3	20	70	-.01
2-Chlorotoluene	1.913	1.881	-	1.7	20	69	-.01
1,3,5-Trimethylbenzene	1.969	2.019	-	-2.5	20	70	-.01
1,2,3-Trichloropropane	0.429	0.421	-	1.9	20	70	-.01
trans-1,4-Dichloro-2-buten	0.17	0.162	-	4.7	20	66	-.01
4-Chlorotoluene	1.758	1.767	-	-0.5	20	70	-.01
tert-Butylbenzene	1.689	1.756	-	-4	20	70	-.01
1,2,4-Trimethylbenzene	1.958	2.02	-	-3.2	20	71	-.01
sec-Butylbenzene	2.533	2.615	-	-3.2	20	69	-.02
p-Isopropyltoluene	2.167	2.277	-	-5.1	20	70	-.01
1,3-Dichlorobenzene	1.17	1.194	-	-2.1	20	72	-.01
1,4-Dichlorobenzene	1.175	1.192	-	-1.4	20	72	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA126	**Calibration Date**	: 11/05/19 15:35		
Lab File ID	: V26191105A01	**Init. Calib. Date(s)**	: 08/20/19	08/20/19	
Sample No	: WG1305198-2	**Init. Calib. Times**	: 02:02	07:17	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.417	1.477	-	-4.2	20	70	0
n-Butylbenzene	2.499	2.505	-	-0.2	20	68	0
1,2-Dichlorobenzene	1.096	1.096	-	0	20	71	-.01
1,2,4,5-Tetramethylbenzene	2.051	2.242	-	-9.3	20	71	0
1,2-Dibromo-3-chloropropan	0.087	0.088	-	-1.1	20	69	-.01
1,3,5-Trichlorobenzene	0.811	0.839	-	-3.5	20	71	-.01
Hexachlorobutadiene	0.359	0.331	-	7.8	20	64	0
1,2,4-Trichlorobenzene	0.698	0.729	-	-4.4	20	71	0
Naphthalene	1.715	1.89	-	-10.2	20	73	0
1,2,3-Trichlorobenzene	0.66	0.661	-	-0.2	20	69	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA111	**Calibration Date**	: 11/06/19 10:03		
Lab File ID	: V11191106B02	**Init. Calib. Date(s)**	: 10/12/19	10/12/19	
Sample No	: WG1305356-2	**Init. Calib. Times**	: 06:14	09:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	99	-.02
Dichlorodifluoromethane	0.125	0.133	-	-6.4	20	130	0
Chloromethane	0.151	0.176	-	-16.6	20	130	0
Vinyl chloride	40	46.34	-	-15.9	20	115	0
Bromomethane	40	48.45	-	-21.1*	20	125	0
Chloroethane	0.251	0.266	-	-6	20	119	0
Trichlorofluoromethane	0.393	0.372	-	5.3	20	111	-.01
Ethyl ether	0.122	0.137	-	-12.3	20	125	-.01
1,1-Dichloroethene	0.197	0.22	-	-11.7	20	131	-.01
Carbon disulfide	0.627	0.688	-	-9.7	20	126	-.01
Freon-113	0.202	0.232	-	-14.9	20	131	-.01
Acrolein	0.024	0.029*	-	-20.8*	20	121	-.01
Methylene chloride	0.252	0.268	-	-6.3	20	127	0
Acetone	40	48.766	-	-21.9*	20	122	-.01
trans-1,2-Dichloroethene	0.241	0.263	-	-9.1	20	129	-.01
Methyl acetate	0.105	0.109	-	-3.8	20	115	-.01
Methyl tert-butyl ether	0.594	0.652	-	-9.8	20	126	-.01
tert-Butyl alcohol	0.017	0.02*	-	-17.6	20	141	-.01
Diisopropyl ether	0.635	0.693	-	-9.1	20	126	-.02
1,1-Dichloroethane	0.404	0.439	-	-8.7	20	128	-.02
Halothane	0.19	0.217	-	-14.2	20	133	-.02
Acrylonitrile	0.045	0.054	-	-20	20	132	-.01
Ethyl tert-butyl ether	0.657	0.728	-	-10.8	20	127	-.02
Vinyl acetate	0.344	0.424	-	-23.3*	20	141	-.02
cis-1,2-Dichloroethene	0.274	0.3	-	-9.5	20	126	-.02
2,2-Dichloropropane	0.336	0.377	-	-12.2	20	127	-.02
Bromochloromethane	0.126	0.14	-	-11.1	20	125	-.01
Cyclohexane	0.308	0.346	-	-12.3	20	126	-.01
Chloroform	40	45.467	-	-13.7	20	118	-.01
Ethyl acetate	0.149	0.165	-	-10.7	20	128	-.01
Carbon tetrachloride	0.344	0.381	-	-10.8	20	124	-.02
Tetrahydrofuran	40	49.162	-	-22.9*	20	125	-.02
Dibromofluoromethane	0.265	0.264	-	0.4	20	100	-.02
1,1,1-Trichloroethane	0.399	0.414	-	-3.8	20	120	-.02
2-Butanone	0.06	0.067*	-	-11.7	20	132	-.02
1,1-Dichloropropene	0.315	0.339	-	-7.6	20	121	-.02
Benzene	1.01	1.015	-	-0.5	20	120	-.02
tert-Amyl methyl ether	0.619	0.691	-	-11.6	20	126	-.02
1,2-Dichloroethane-d4	0.238	0.217	-	8.8	20	93	-.02
1,2-Dichloroethane	0.313	0.308	-	1.6	20	112	-.02
Methyl cyclohexane	0.385	0.425	-	-10.4	20	123	-.02
Trichloroethene	0.272	0.276	-	-1.5	20	121	-.02
Dibromomethane	0.156	0.159	-	-1.9	20	115	-.02

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA111	**Calibration Date**	: 11/06/19 10:03		
Lab File ID	: V11191106B02	**Init. Calib. Date(s)**	: 10/12/19	10/12/19	
Sample No	: WG1305356-2	**Init. Calib. Times**	: 06:14	09:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.231	0.251	-	-8.7	20	123	-.02
2-Chloroethyl vinyl ether	0.096	0.113	-	-17.7	20	120	-.02
Bromodichloromethane	0.373	0.371	-	0.5	20	116	-.01
1,4-Dioxane	0.00197	0.00219*	-	-11.2	20	94	-.02
cis-1,3-Dichloropropene	0.404	0.432	-	-6.9	20	123	-.02
Chlorobenzene-d5	1	1	-	0	20	121	-.02
Toluene-d8	1.305	1.154	-	11.6	20	106	-.02
Toluene	0.839	0.73	-	13	20	118	-.02
4-Methyl-2-pentanone	0.075	0.077*	-	-2.7	20	127	-.02
Tetrachloroethene	0.349	0.324	-	7.2	20	132	-.01
trans-1,3-Dichloropropene	0.444	0.412	-	7.2	20	121	-.02
Ethyl methacrylate	0.31	0.309	-	0.3	20	123	-.02
1,1,2-Trichloroethane	0.232	0.204	-	12.1	20	119	-.02
Chlorodibromomethane	0.344	0.313	-	9	20	123	-.02
1,3-Dichloropropane	0.467	0.409	-	12.4	20	119	-.02
1,2-Dibromoethane	0.273	0.248	-	9.2	20	120	-.02
2-Hexanone	0.111	0.114	-	-2.7	20	124	-.02
Chlorobenzene	40	38.186	-	4.5	20	122	-.02
Ethylbenzene	1.585	1.396	-	11.9	20	118	-.02
1,1,1,2-Tetrachloroethane	0.362	0.312	-	13.8	20	121	-.02
p/m Xylene	0.656	0.554	-	15.5	20	116	-.02
o Xylene	0.648	0.542	-	16.4	20	115	-.02
Styrene	1.09	0.918	-	15.8	20	110	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	120	0
Bromoform	0.399	0.351	-	12	20	116	-.01
Isopropylbenzene	2.947	2.442	-	17.1	20	114	0
4-Bromofluorobenzene	0.877	0.845	-	3.6	20	118	-.02
Bromobenzene	0.772	0.645	-	16.5	20	118	0
n-Propylbenzene	3.495	2.93	-	16.2	20	115	-.02
1,4-Dichlorobutane	0.742	0.606	-	18.3	20	115	-.01
1,1,2,2-Tetrachloroethane	0.662	0.525	-	20.7*	20	112	-.02
4-Ethyltoluene	3.035	2.562	-	15.6	20	114	-.02
2-Chlorotoluene	2.479	2	-	19.3	20	111	-.02
1,3,5-Trimethylbenzene	2.508	2.083	-	16.9	20	111	-.02
1,2,3-Trichloropropane	0.497	0.398	-	19.9	20	111	-.02
trans-1,4-Dichloro-2-buten	0.141	0.127	-	9.9	20	117	-.02
4-Chlorotoluene	2.205	1.803	-	18.2	20	111	-.02
tert-Butylbenzene	2.103	1.77	-	15.8	20	112	-.01
1,2,4-Trimethylbenzene	2.523	2.082	-	17.5	20	110	-.01
sec-Butylbenzene	3.18	2.692	-	15.3	20	112	-.01
p-Isopropyltoluene	2.672	2.315	-	13.4	20	114	-.01
1,3-Dichlorobenzene	1.523	1.296	-	14.9	20	114	-.02
1,4-Dichlorobenzene	1.559	1.287	-	17.4	20	113	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1952035	
Project Name	: LSP; WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA111		**Calibration Date**	: 11/06/19 10:03	
Lab File ID	: V11191106B02		**Init. Calib. Date(s)**	: 10/12/19	10/12/19
Sample No	: WG1305356-2		**Init. Calib. Times**	: 06:14	09:40
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.639	1.425	-	13.1	20	114	-.02
n-Butylbenzene	2.539	2.151	-	15.3	20	114	-.02
1,2-Dichlorobenzene	1.408	1.18	-	16.2	20	113	-.01
1,2,4,5-Tetramethylbenzene	2.568	2.211	-	13.9	20	112	-.01
1,2-Dibromo-3-chloropropan	0.09	0.079	-	12.2	20	116	-.02
1,3,5-Trichlorobenzene	1.07	0.927	-	13.4	20	120	-.01
Hexachlorobutadiene	0.46	0.388	-	15.7	20	121	-.01
1,2,4-Trichlorobenzene	0.885	0.79	-	10.7	20	122	0
Naphthalene	1.804	1.602	-	11.2	20	117	-.01
1,2,3-Trichlorobenzene	0.787	0.693	-	11.9	20	122	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA111	**Calibration Date**	: 11/07/19 07:17		
Lab File ID	: V11191107A01	**Init. Calib. Date(s)**	: 10/12/19	10/12/19	
Sample No	: WG1305928-2	**Init. Calib. Times**	: 06:14	09:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	103	-.02
Dichlorodifluoromethane	0.125	0.135	-	-8	20	136	0
Chloromethane	0.151	0.177	-	-17.2	20	135	-.01
Vinyl chloride	40	47.906	-	-19.8	20	123	0
Bromomethane	40	48.51	-	-21.3*	20	129	0
Chloroethane	0.251	0.264	-	-5.2	20	122	0
Trichlorofluoromethane	0.393	0.393	-	0	20	121	-.01
Ethyl ether	0.122	0.13	-	-6.6	20	123	-.01
1,1-Dichloroethene	0.197	0.223	-	-13.2	20	137	-.01
Carbon disulfide	0.627	0.69	-	-10	20	131	-.01
Freon-113	0.202	0.236	-	-16.8	20	137	-.01
Acrolein	0.024	0.028*	-	-16.7	20	120	-.01
Methylene chloride	0.252	0.256	-	-1.6	20	126	0
Acetone	40	48.667	-	-21.7*	20	126	-.02
trans-1,2-Dichloroethene	0.241	0.261	-	-8.3	20	132	-.02
Methyl acetate	0.105	0.102	-	2.9	20	112	-.01
Methyl tert-butyl ether	0.594	0.616	-	-3.7	20	123	-.02
tert-Butyl alcohol	0.017	0.018*	-	-5.9	20	132	-.02
Diisopropyl ether	0.635	0.663	-	-4.4	20	124	-.02
1,1-Dichloroethane	0.404	0.426	-	-5.4	20	129	-.02
Halothane	0.19	0.213	-	-12.1	20	135	-.02
Acrylonitrile	0.045	0.05*	-	-11.1	20	126	-.01
Ethyl tert-butyl ether	0.657	0.687	-	-4.6	20	124	-.02
Vinyl acetate	0.344	0.404	-	-17.4	20	139	-.02
cis-1,2-Dichloroethene	0.274	0.283	-	-3.3	20	123	-.02
2,2-Dichloropropane	0.336	0.381	-	-13.4	20	133	-.02
Bromochloromethane	0.126	0.131	-	-4	20	122	-.02
Cyclohexane	0.308	0.353	-	-14.6	20	133	-.02
Chloroform	40	43.581	-	-9	20	117	-.02
Ethyl acetate	0.149	0.153	-	-2.7	20	123	-.02
Carbon tetrachloride	0.344	0.379	-	-10.2	20	128	-.02
Tetrahydrofuran	40	46.553	-	-16.4	20	122	-.02
Dibromofluoromethane	0.265	0.261	-	1.5	20	103	-.02
1,1,1-Trichloroethane	0.399	0.417	-	-4.5	20	124	-.02
2-Butanone	0.06	0.066*	-	-10	20	134	-.02
1,1-Dichloropropene	0.315	0.343	-	-8.9	20	127	-.02
Benzene	1.01	1	-	1	20	122	-.02
tert-Amyl methyl ether	0.619	0.661	-	-6.8	20	124	-.02
1,2-Dichloroethane-d4	0.238	0.22	-	7.6	20	97	-.02
1,2-Dichloroethane	0.313	0.294	-	6.1	20	111	-.02
Methyl cyclohexane	0.385	0.437	-	-13.5	20	130	-.02
Trichloroethene	0.272	0.272	-	0	20	123	-.02
Dibromomethane	0.156	0.151	-	3.2	20	113	-.02

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA111	**Calibration Date**	: 11/07/19 07:17		
Lab File ID	: V11191107A01	**Init. Calib. Date(s)**	: 10/12/19	10/12/19	
Sample No	: WG1305928-2	**Init. Calib. Times**	: 06:14	09:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.231	0.239	-	-3.5	20	121	-.02
2-Chloroethyl vinyl ether	0.096	0.105	-	-9.4	20	116	-.02
Bromodichloromethane	0.373	0.35	-	6.2	20	114	-.02
1,4-Dioxane	0.00197	0.00202*	-	-2.5	20	90	-.02
cis-1,3-Dichloropropene	0.404	0.41	-	-1.5	20	120	-.02
Chlorobenzene-d5	1	1	-	0	20	129	-.02
Toluene-d8	1.305	1.134	-	13.1	20	111	-.02
Toluene	0.839	0.705	-	16	20	122	-.02
4-Methyl-2-pentanone	0.075	0.071*	-	5.3	20	125	-.02
Tetrachloroethene	0.349	0.319	-	8.6	20	138	-.02
trans-1,3-Dichloropropene	0.444	0.379	-	14.6	20	118	-.02
Ethyl methacrylate	0.31	0.281	-	9.4	20	119	-.02
1,1,2-Trichloroethane	0.232	0.187	-	19.4	20	116	-.02
Chlorodibromomethane	0.344	0.286	-	16.9	20	120	-.02
1,3-Dichloropropane	0.467	0.376	-	19.5	20	116	-.02
1,2-Dibromoethane	0.273	0.23	-	15.8	20	118	-.02
2-Hexanone	0.111	0.104	-	6.3	20	120	-.02
Chlorobenzene	40	36.566	-	8.6	20	124	-.02
Ethylbenzene	1.585	1.354	-	14.6	20	122	-.02
1,1,1,2-Tetrachloroethane	0.362	0.292	-	19.3	20	121	-.02
p/m Xylene	0.656	0.541	-	17.5	20	120	-.02
o Xylene	0.648	0.523	-	19.3	20	118	-.02
Styrene	1.09	0.867	-	20.5*	20	111	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	128	-.01
Bromoform	0.399	0.315	-	21.1*	20	111	-.02
Isopropylbenzene	2.947	2.401	-	18.5	20	120	-.02
4-Bromofluorobenzene	0.877	0.851	-	3	20	127	-.02
Bromobenzene	0.772	0.618	-	19.9	20	121	-.02
n-Propylbenzene	3.495	2.863	-	18.1	20	120	-.02
1,4-Dichlorobutane	0.742	0.562	-	24.3*	20	114	-.02
1,1,2,2-Tetrachloroethane	0.662	0.482	-	27.2*	20	110	-.02
4-Ethyltoluene	3.035	2.497	-	17.7	20	119	-.02
2-Chlorotoluene	2.479	1.901	-	23.3*	20	113	-.02
1,3,5-Trimethylbenzene	2.508	2.011	-	19.8	20	115	-.02
1,2,3-Trichloropropane	0.497	0.367	-	26.2*	20	110	-.02
trans-1,4-Dichloro-2-buten	0.141	0.114	-	19.1	20	113	-.02
4-Chlorotoluene	2.205	1.718	-	22.1*	20	113	-.02
tert-Butylbenzene	2.103	1.739	-	17.3	20	118	-.01
1,2,4-Trimethylbenzene	2.523	2	-	20.7*	20	113	-.01
sec-Butylbenzene	3.18	2.638	-	17	20	118	-.01
p-Isopropyltoluene	2.672	2.239	-	16.2	20	117	-.01
1,3-Dichlorobenzene	1.523	1.207	-	20.7*	20	114	-.02
1,4-Dichlorobenzene	1.559	1.21	-	22.4*	20	114	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952035		
Project Name	: LSP; WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA111	**Calibration Date**	: 11/07/19 07:17		
Lab File ID	: V11191107A01	**Init. Calib. Date(s)**	: 10/12/19	10/12/19	
Sample No	: WG1305928-2	**Init. Calib. Times**	: 06:14	09:40	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.639	1.39	-	15.2	20	118	-.02
n-Butylbenzene	2.539	2.114	-	16.7	20	119	-.02
1,2-Dichlorobenzene	1.408	1.092	-	22.4*	20	112	-.01
1,2,4,5-Tetramethylbenzene	2.568	2.069	-	19.4	20	112	-.01
1,2-Dibromo-3-chloropropan	0.09	0.073	-	18.9	20	115	-.02
1,3,5-Trichlorobenzene	1.07	0.903	-	15.6	20	125	-.01
Hexachlorobutadiene	0.46	0.397	-	13.7	20	133	-.01
1,2,4-Trichlorobenzene	0.885	0.761	-	14	20	126	-.01
Naphthalene	1.804	1.465	-	18.8	20	115	-.01
1,2,3-Trichlorobenzene	0.787	0.658	-	16.4	20	124	-.01

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L1952792
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	LSP: WASHINGTON ST. PHASE 2
Project Number:	310142.0002.0000
Report Date:	11/08/19

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1952792-01	GLX-TPW-403 (0'-3')	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/06/19 12:05	11/06/19
L1952792-02	GLX-TPW-401 (0'-3')	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/06/19 12:45	11/06/19
L1952792-03	GLX-TPW-402 (0'-6')	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/06/19 13:45	11/06/19
L1952792-04	GLX-TPW-403-VOC (3')	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/06/19 12:05	11/06/19
L1952792-05	GLX-TPW-401-VOC (3')	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/06/19 12:55	11/06/19
L1952792-06	GLX-TPW-402-VOC (4')	SOIL	WASHINGTON ST., SOMERVILLE, MA	11/06/19 13:45	11/06/19

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	NO
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	LSP: WASHINGTON ST. PHASE 2	**Lab Number:**	L1952792
Project Number:	310142.0002.0000	**Report Date:**	11/08/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	LSP: WASHINGTON ST. PHASE 2	**Lab Number:**	L1952792
Project Number:	310142.0002.0000	**Report Date:**	11/08/19

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were transported via Alpha Courier in a cooler with ice. All requested analyses were performed.

L1952792-05: The collection date and time on the chain of custody was 06-NOV-19 12:45; however, the collection date/time on the container label was 06-NOV-19 12:55. At the client's request, the collection date/time is reported as 06-NOV-19 12:55.

Volatile Organics

L1952792-05: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

L1952792-06: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of target compounds in the sample.

In reference to question G:

L1952792-05 and -06: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG1306293-3 LCS/LCSD recoveries, associated with L1952792-05 and -06, are below the individual acceptance criteria for chloromethane (68%/64%) and dichlorodifluoromethane (45%/42%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG1306294-3/-4 LCS/LCSD recoveries, associated with L1952792-04, are below the individual acceptance criteria for chloromethane (68%/64%) and dichlorodifluoromethane (45%/42%), but within the overall method allowances. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG1306293-6 MS/MSD recoveries, performed on L1952792-05, are outside the acceptance criteria for trichlorofluoromethane (30%/37%), bromomethane (MS 54%), chloroethane (33%/32%), and dichlorodifluoromethane (55%/53%); however, the associated LCS/LCSD recoveries are within overall method

Project Name:	LSP: WASHINGTON ST. PHASE 2	**Lab Number:**	L1952792
Project Number:	310142.0002.0000	**Report Date:**	11/08/19

Case Narrative (continued)

allowances. No further action was required.

The initial calibration, associated with L1952792-04, -05, and -06, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0021), as well as the average response factor for 1,4-dioxane.

The continuing calibration standards, associated with L1952792-04, -05, and -06, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 11/08/19

QC OUTLIER SUMMARY REPORT

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 High - Westborough Lab								
8260C	Batch QC	WG1306293-3	Chloromethane	LCS	68	70-130	05-06	potential low bias
8260C	Batch QC	WG1306293-3	Dichlorodifluoromethane	LCS	45	70-130	05-06	potential low bias
8260C	Batch QC	WG1306293-4	Chloromethane	LCSD	64	70-130	05-06	potential low bias
8260C	Batch QC	WG1306293-4	Dichlorodifluoromethane	LCSD	42	70-130	05-06	potential low bias
8260C	Batch QC (L1952792-05)	WG1306293-6	Trichlorofluoromethane	MS	30	70-130	05-06	potential low bias
8260C	Batch QC (L1952792-05)	WG1306293-6	Bromomethane	MS	54	70-130	05-06	potential low bias
8260C	Batch QC (L1952792-05)	WG1306293-6	Chloroethane	MS	33	70-130	05-06	potential low bias
8260C	Batch QC (L1952792-05)	WG1306293-6	Dichlorodifluoromethane	MS	55	70-130	05-06	potential low bias
8260C	Batch QC (L1952792-05)	WG1306293-7	Trichlorofluoromethane	MSD	37	70-130	05-06	potential low bias
8260C	Batch QC (L1952792-05)	WG1306293-7	Chloroethane	MSD	32	70-130	05-06	potential low bias
8260C	Batch QC (L1952792-05)	WG1306293-7	Dichlorodifluoromethane	MSD	53	70-130	05-06	potential low bias
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	Batch QC	WG1306294-3	Chloromethane	LCS	68	70-130	04	potential low bias
8260C	Batch QC	WG1306294-3	Dichlorodifluoromethane	LCS	45	70-130	04	potential low bias
8260C	Batch QC	WG1306294-4	Chloromethane	LCSD	64	70-130	04	potential low bias
8260C	Batch QC	WG1306294-4	Dichlorodifluoromethane	LCSD	42	70-130	04	potential low bias

ORGANICS

VOLATILES

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-04 Date Collected: 11/06/19 12:05
Client ID: GLX-TPW-403-VOC (3') Date Received: 11/06/19
Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/07/19 16:46
Analyst: AD
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	8.9	--	1
1,1-Dichloroethane	ND		ug/kg	1.8	--	1
Chloroform	ND		ug/kg	2.7	--	1
Carbon tetrachloride	ND		ug/kg	1.8	--	1
1,2-Dichloropropane	ND		ug/kg	1.8	--	1
Dibromochloromethane	ND		ug/kg	1.8	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.8	--	1
Tetrachloroethene	ND		ug/kg	0.89	--	1
Chlorobenzene	ND		ug/kg	0.89	--	1
Trichlorofluoromethane	ND		ug/kg	7.1	--	1
1,2-Dichloroethane	ND		ug/kg	1.8	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.89	--	1
Bromodichloromethane	ND		ug/kg	0.89	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.8	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.89	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.89	--	1
1,1-Dichloropropene	ND		ug/kg	0.89	--	1
Bromoform	ND		ug/kg	7.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.89	--	1
Benzene	ND		ug/kg	0.89	--	1
Toluene	ND		ug/kg	1.8	--	1
Ethylbenzene	ND		ug/kg	1.8	--	1
Chloromethane	ND		ug/kg	7.1	--	1
Bromomethane	ND		ug/kg	3.6	--	1
Vinyl chloride	2.3		ug/kg	1.8	--	1
Chloroethane	ND		ug/kg	3.6	--	1
1,1-Dichloroethene	ND		ug/kg	1.8	--	1
trans-1,2-Dichloroethene	ND		ug/kg	2.7	--	1

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-04 Date Collected: 11/06/19 12:05

Client ID: GLX-TPW-403-VOC (3') Date Received: 11/06/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.89	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	3.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.6	--	1
Methyl tert butyl ether	ND		ug/kg	3.6	--	1
p/m-Xylene	ND		ug/kg	3.6	--	1
o-Xylene	ND		ug/kg	1.8	--	1
Xylenes, Total	ND		ug/kg	1.8	--	1
cis-1,2-Dichloroethene	3.7		ug/kg	1.8	--	1
1,2-Dichloroethene, Total	3.7		ug/kg	1.8	--	1
Dibromomethane	ND		ug/kg	3.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	3.6	--	1
Styrene	ND		ug/kg	1.8	--	1
Dichlorodifluoromethane	ND		ug/kg	18	--	1
Acetone	ND		ug/kg	44	--	1
Carbon disulfide	ND		ug/kg	18	--	1
Methyl ethyl ketone	ND		ug/kg	18	--	1
Methyl isobutyl ketone	ND		ug/kg	18	--	1
2-Hexanone	ND		ug/kg	18	--	1
Bromochloromethane	ND		ug/kg	3.6	--	1
Tetrahydrofuran	ND		ug/kg	7.1	--	1
2,2-Dichloropropane	ND		ug/kg	3.6	--	1
1,2-Dibromoethane	ND		ug/kg	1.8	--	1
1,3-Dichloropropane	ND		ug/kg	3.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.89	--	1
Bromobenzene	ND		ug/kg	3.6	--	1
n-Butylbenzene	ND		ug/kg	1.8	--	1
sec-Butylbenzene	ND		ug/kg	1.8	--	1
tert-Butylbenzene	ND		ug/kg	3.6	--	1
o-Chlorotoluene	ND		ug/kg	3.6	--	1
p-Chlorotoluene	ND		ug/kg	3.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.3	--	1
Hexachlorobutadiene	ND		ug/kg	7.1	--	1
Isopropylbenzene	ND		ug/kg	1.8	--	1
p-Isopropyltoluene	ND		ug/kg	1.8	--	1
Naphthalene	ND		ug/kg	7.1	--	1
n-Propylbenzene	ND		ug/kg	1.8	--	1

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-04 Date Collected: 11/06/19 12:05

Client ID: GLX-TPW-403-VOC (3') Date Received: 11/06/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	3.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.6	--	1
Diethyl ether	ND		ug/kg	3.6	--	1
Diisopropyl Ether	ND		ug/kg	3.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	3.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	3.6	--	1
1,4-Dioxane	ND		ug/kg	140	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	104		70-130

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-05
Client ID: GLX-TPW-401-VOC (3')
Sample Location: WASHINGTON ST., SOMERVILLE, MA

Date Collected: 11/06/19 12:55
Date Received: 11/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/07/19 15:54
Analyst: AD
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	330	--	1
1,1-Dichloroethane	ND		ug/kg	65	--	1
Chloroform	ND		ug/kg	98	--	1
Carbon tetrachloride	ND		ug/kg	65	--	1
1,2-Dichloropropane	ND		ug/kg	65	--	1
Dibromochloromethane	ND		ug/kg	65	--	1
1,1,2-Trichloroethane	ND		ug/kg	65	--	1
Tetrachloroethene	41		ug/kg	33	--	1
Chlorobenzene	ND		ug/kg	33	--	1
Trichlorofluoromethane	ND		ug/kg	260	--	1
1,2-Dichloroethane	ND		ug/kg	65	--	1
1,1,1-Trichloroethane	ND		ug/kg	33	--	1
Bromodichloromethane	ND		ug/kg	33	--	1
trans-1,3-Dichloropropene	ND		ug/kg	65	--	1
cis-1,3-Dichloropropene	ND		ug/kg	33	--	1
1,3-Dichloropropene, Total	ND		ug/kg	33	--	1
1,1-Dichloropropene	ND		ug/kg	33	--	1
Bromoform	ND		ug/kg	260	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	33	--	1
Benzene	ND		ug/kg	33	--	1
Toluene	ND		ug/kg	65	--	1
Ethylbenzene	ND		ug/kg	65	--	1
Chloromethane	ND		ug/kg	260	--	1
Bromomethane	ND		ug/kg	130	--	1
Vinyl chloride	ND		ug/kg	65	--	1
Chloroethane	ND		ug/kg	130	--	1
1,1-Dichloroethene	ND		ug/kg	65	--	1
trans-1,2-Dichloroethene	ND		ug/kg	98	--	1

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-05 Date Collected: 11/06/19 12:55

Client ID: GLX-TPW-401-VOC (3') Date Received: 11/06/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	33	--	1
1,2-Dichlorobenzene	ND		ug/kg	130	--	1
1,3-Dichlorobenzene	ND		ug/kg	130	--	1
1,4-Dichlorobenzene	ND		ug/kg	130	--	1
Methyl tert butyl ether	ND		ug/kg	130	--	1
p/m-Xylene	ND		ug/kg	130	--	1
o-Xylene	ND		ug/kg	65	--	1
Xylenes, Total	ND		ug/kg	65	--	1
cis-1,2-Dichloroethene	ND		ug/kg	65	--	1
1,2-Dichloroethene, Total	ND		ug/kg	65	--	1
Dibromomethane	ND		ug/kg	130	--	1
1,2,3-Trichloropropane	ND		ug/kg	130	--	1
Styrene	ND		ug/kg	65	--	1
Dichlorodifluoromethane	ND		ug/kg	650	--	1
Acetone	ND		ug/kg	650	--	1
Carbon disulfide	ND		ug/kg	650	--	1
Methyl ethyl ketone	ND		ug/kg	650	--	1
Methyl isobutyl ketone	ND		ug/kg	650	--	1
2-Hexanone	ND		ug/kg	650	--	1
Bromochloromethane	ND		ug/kg	130	--	1
Tetrahydrofuran	ND		ug/kg	260	--	1
2,2-Dichloropropane	ND		ug/kg	130	--	1
1,2-Dibromoethane	ND		ug/kg	65	--	1
1,3-Dichloropropane	ND		ug/kg	130	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	33	--	1
Bromobenzene	ND		ug/kg	130	--	1
n-Butylbenzene	ND		ug/kg	65	--	1
sec-Butylbenzene	ND		ug/kg	65	--	1
tert-Butylbenzene	ND		ug/kg	130	--	1
o-Chlorotoluene	ND		ug/kg	130	--	1
p-Chlorotoluene	ND		ug/kg	130	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--	1
Hexachlorobutadiene	ND		ug/kg	260	--	1
Isopropylbenzene	ND		ug/kg	65	--	1
p-Isopropyltoluene	ND		ug/kg	65	--	1
Naphthalene	ND		ug/kg	260	--	1
n-Propylbenzene	ND		ug/kg	65	--	1

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-05 Date Collected: 11/06/19 12:55

Client ID: GLX-TPW-401-VOC (3') Date Received: 11/06/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	130	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	130	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	130	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	130	--	1
Diethyl ether	ND		ug/kg	130	--	1
Diisopropyl Ether	ND		ug/kg	130	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	130	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	130	--	1
1,4-Dioxane	ND		ug/kg	5200	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	102		70-130

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-06 Date Collected: 11/06/19 13:45
Client ID: GLX-TPW-402-VOC (4') Date Received: 11/06/19
Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 11/07/19 16:20
Analyst: AD
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	300	--	1
1,1-Dichloroethane	ND		ug/kg	60	--	1
Chloroform	ND		ug/kg	90	--	1
Carbon tetrachloride	ND		ug/kg	60	--	1
1,2-Dichloropropane	ND		ug/kg	60	--	1
Dibromochloromethane	ND		ug/kg	60	--	1
1,1,2-Trichloroethane	ND		ug/kg	60	--	1
Tetrachloroethene	2000		ug/kg	30	--	1
Chlorobenzene	ND		ug/kg	30	--	1
Trichlorofluoromethane	ND		ug/kg	240	--	1
1,2-Dichloroethane	ND		ug/kg	60	--	1
1,1,1-Trichloroethane	ND		ug/kg	30	--	1
Bromodichloromethane	ND		ug/kg	30	--	1
trans-1,3-Dichloropropene	ND		ug/kg	60	--	1
cis-1,3-Dichloropropene	ND		ug/kg	30	--	1
1,3-Dichloropropene, Total	ND		ug/kg	30	--	1
1,1-Dichloropropene	ND		ug/kg	30	--	1
Bromoform	ND		ug/kg	240	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	30	--	1
Benzene	ND		ug/kg	30	--	1
Toluene	ND		ug/kg	60	--	1
Ethylbenzene	ND		ug/kg	60	--	1
Chloromethane	ND		ug/kg	240	--	1
Bromomethane	ND		ug/kg	120	--	1
Vinyl chloride	ND		ug/kg	60	--	1
Chloroethane	ND		ug/kg	120	--	1
1,1-Dichloroethene	ND		ug/kg	60	--	1
trans-1,2-Dichloroethene	ND		ug/kg	90	--	1

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-06 Date Collected: 11/06/19 13:45

Client ID: GLX-TPW-402-VOC (4') Date Received: 11/06/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	32		ug/kg	30	--	1
1,2-Dichlorobenzene	ND		ug/kg	120	--	1
1,3-Dichlorobenzene	ND		ug/kg	120	--	1
1,4-Dichlorobenzene	ND		ug/kg	120	--	1
Methyl tert butyl ether	ND		ug/kg	120	--	1
p/m-Xylene	ND		ug/kg	120	--	1
o-Xylene	ND		ug/kg	60	--	1
Xylenes, Total	ND		ug/kg	60	--	1
cis-1,2-Dichloroethene	ND		ug/kg	60	--	1
1,2-Dichloroethene, Total	ND		ug/kg	60	--	1
Dibromomethane	ND		ug/kg	120	--	1
1,2,3-Trichloropropane	ND		ug/kg	120	--	1
Styrene	ND		ug/kg	60	--	1
Dichlorodifluoromethane	ND		ug/kg	600	--	1
Acetone	ND		ug/kg	600	--	1
Carbon disulfide	ND		ug/kg	600	--	1
Methyl ethyl ketone	ND		ug/kg	600	--	1
Methyl isobutyl ketone	ND		ug/kg	600	--	1
2-Hexanone	ND		ug/kg	600	--	1
Bromochloromethane	ND		ug/kg	120	--	1
Tetrahydrofuran	ND		ug/kg	240	--	1
2,2-Dichloropropane	ND		ug/kg	120	--	1
1,2-Dibromoethane	ND		ug/kg	60	--	1
1,3-Dichloropropane	ND		ug/kg	120	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	30	--	1
Bromobenzene	ND		ug/kg	120	--	1
n-Butylbenzene	ND		ug/kg	60	--	1
sec-Butylbenzene	ND		ug/kg	60	--	1
tert-Butylbenzene	ND		ug/kg	120	--	1
o-Chlorotoluene	ND		ug/kg	120	--	1
p-Chlorotoluene	ND		ug/kg	120	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	180	--	1
Hexachlorobutadiene	ND		ug/kg	240	--	1
Isopropylbenzene	ND		ug/kg	60	--	1
p-Isopropyltoluene	ND		ug/kg	60	--	1
Naphthalene	ND		ug/kg	240	--	1
n-Propylbenzene	ND		ug/kg	60	--	1

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-06 Date Collected: 11/06/19 13:45

Client ID: GLX-TPW-402-VOC (4') Date Received: 11/06/19

Sample Location: WASHINGTON ST., SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	120	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	120	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	120	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	120	--	1
Diethyl ether	ND		ug/kg	120	--	1
Diisopropyl Ether	ND		ug/kg	120	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	120	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	120	--	1
1,4-Dioxane	ND		ug/kg	4800	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/07/19 08:51
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 05-06 Batch: WG1306293-5					
Methylene chloride	ND		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	25	--

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/07/19 08:51
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 05-06 Batch: WG1306293-5					
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/07/19 08:51
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 05-06 Batch: WG1306293-5					
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
Diethyl ether	ND		ug/kg	100	--
Diisopropyl Ether	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	4000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	101		70-130

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/07/19 08:51
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1306294-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/07/19 08:51
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1306294-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: LSP: WASHINGTON ST. PHASE 2 **Lab Number:** L1952792

Project Number: 310142.0002.0000 **Report Date:** 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/07/19 08:51
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1306294-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 05-06		Batch: WG1306293-3 WG1306293-4					
Methylene chloride	95		92		70-130	3		20
1,1-Dichloroethane	94		91		70-130	3		20
Chloroform	88		86		70-130	2		20
Carbon tetrachloride	88		85		70-130	3		20
1,2-Dichloropropane	98		95		70-130	3		20
Dibromochloromethane	91		89		70-130	2		20
1,1,2-Trichloroethane	93		90		70-130	3		20
Tetrachloroethene	84		82		70-130	2		20
Chlorobenzene	88		86		70-130	2		20
Trichlorofluoromethane	88		83		70-130	6		20
1,2-Dichloroethane	90		87		70-130	3		20
1,1,1-Trichloroethane	89		87		70-130	2		20
Bromodichloromethane	91		91		70-130	0		20
trans-1,3-Dichloropropene	92		91		70-130	1		20
cis-1,3-Dichloropropene	97		94		70-130	3		20
1,1-Dichloropropene	92		90		70-130	2		20
Bromoform	93		92		70-130	1		20
1,1,2,2-Tetrachloroethane	96		95		70-130	1		20
Benzene	91		89		70-130	2		20
Toluene	89		87		70-130	2		20
Ethylbenzene	86		84		70-130	2		20
Chloromethane	**68**	Q	**64**	Q	70-130	6		20
Bromomethane	72		71		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 05-06		Batch: WG1306293-3 WG1306293-4					
Vinyl chloride	84		79		70-130	6		20
Chloroethane	78		75		70-130	4		20
1,1-Dichloroethene	89		87		70-130	2		20
trans-1,2-Dichloroethene	93		89		70-130	4		20
Trichloroethene	92		88		70-130	4		20
1,2-Dichlorobenzene	93		91		70-130	2		20
1,3-Dichlorobenzene	93		90		70-130	3		20
1,4-Dichlorobenzene	90		89		70-130	1		20
Methyl tert butyl ether	99		97		70-130	2		20
p/m-Xylene	88		85		70-130	3		20
o-Xylene	88		85		70-130	3		20
cis-1,2-Dichloroethene	94		92		70-130	2		20
Dibromomethane	95		93		70-130	2		20
1,2,3-Trichloropropane	93		91		70-130	2		20
Styrene	88		86		70-130	2		20
Dichlorodifluoromethane	**45**	Q	**42**	Q	70-130	7		20
Acetone	95		91		70-130	4		20
Carbon disulfide	85		81		70-130	5		20
Methyl ethyl ketone	87		78		70-130	11		20
Methyl isobutyl ketone	98		94		70-130	4		20
2-Hexanone	80		76		70-130	5		20
Bromochloromethane	95		94		70-130	1		20
Tetrahydrofuran	108		102		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 05-06		Batch: WG1306293-3 WG1306293-4					
2,2-Dichloropropane	88		85		70-130	3		20
1,2-Dibromoethane	95		93		70-130	2		20
1,3-Dichloropropane	95		93		70-130	2		20
1,1,1,2-Tetrachloroethane	89		87		70-130	2		20
Bromobenzene	94		93		70-130	1		20
n-Butylbenzene	91		89		70-130	2		20
sec-Butylbenzene	91		88		70-130	3		20
tert-Butylbenzene	92		89		70-130	3		20
o-Chlorotoluene	92		90		70-130	2		20
p-Chlorotoluene	90		88		70-130	2		20
1,2-Dibromo-3-chloropropane	92		90		70-130	2		20
Hexachlorobutadiene	87		84		70-130	4		20
Isopropylbenzene	91		89		70-130	2		20
p-Isopropyltoluene	92		90		70-130	2		20
Naphthalene	96		93		70-130	3		20
n-Propylbenzene	92		90		70-130	2		20
1,2,3-Trichlorobenzene	93		90		70-130	3		20
1,2,4-Trichlorobenzene	94		91		70-130	3		20
1,3,5-Trimethylbenzene	90		87		70-130	3		20
1,2,4-Trimethylbenzene	92		89		70-130	3		20
Diethyl ether	106		102		70-130	4		20
Diisopropyl Ether	100		97		70-130	3		20
Ethyl-Tert-Butyl-Ether	104		100		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2

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Lab Number: L1952792

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab	Associated sample(s): 05-06		Batch: WG1306293-3 WG1306293-4					
Tertiary-Amyl Methyl Ether	100		97		70-130	3		20
1,4-Dioxane	106		103		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		96		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	105		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1306294-3 WG1306294-4								
Methylene chloride	95		92		70-130	3		20
1,1-Dichloroethane	94		91		70-130	3		20
Chloroform	88		86		70-130	2		20
Carbon tetrachloride	88		85		70-130	3		20
1,2-Dichloropropane	98		95		70-130	3		20
Dibromochloromethane	91		89		70-130	2		20
1,1,2-Trichloroethane	93		90		70-130	3		20
Tetrachloroethene	84		82		70-130	2		20
Chlorobenzene	88		86		70-130	2		20
Trichlorofluoromethane	88		83		70-130	6		20
1,2-Dichloroethane	90		87		70-130	3		20
1,1,1-Trichloroethane	89		87		70-130	2		20
Bromodichloromethane	91		91		70-130	0		20
trans-1,3-Dichloropropene	92		91		70-130	1		20
cis-1,3-Dichloropropene	97		94		70-130	3		20
1,1-Dichloropropene	92		90		70-130	2		20
Bromoform	93		92		70-130	1		20
1,1,2,2-Tetrachloroethane	96		95		70-130	1		20
Benzene	91		89		70-130	2		20
Toluene	89		87		70-130	2		20
Ethylbenzene	86		84		70-130	2		20
Chloromethane	**68**	Q	**64**	Q	70-130	6		20
Bromomethane	72		71		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1306294-3 WG1306294-4								
Vinyl chloride	84		79		70-130	6		20
Chloroethane	78		75		70-130	4		20
1,1-Dichloroethene	89		87		70-130	2		20
trans-1,2-Dichloroethene	93		89		70-130	4		20
Trichloroethene	92		88		70-130	4		20
1,2-Dichlorobenzene	93		91		70-130	2		20
1,3-Dichlorobenzene	93		90		70-130	3		20
1,4-Dichlorobenzene	90		89		70-130	1		20
Methyl tert butyl ether	99		97		70-130	2		20
p/m-Xylene	88		85		70-130	3		20
o-Xylene	88		85		70-130	3		20
cis-1,2-Dichloroethene	94		92		70-130	2		20
Dibromomethane	95		93		70-130	2		20
1,2,3-Trichloropropane	93		91		70-130	2		20
Styrene	88		86		70-130	2		20
Dichlorodifluoromethane	**45**	Q	**42**	Q	70-130	7		20
Acetone	95		91		70-130	4		20
Carbon disulfide	85		81		70-130	5		20
Methyl ethyl ketone	87		78		70-130	11		20
Methyl isobutyl ketone	98		94		70-130	4		20
2-Hexanone	80		76		70-130	5		20
Bromochloromethane	95		94		70-130	1		20
Tetrahydrofuran	108		102		70-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1306294-3 WG1306294-4								
2,2-Dichloropropane	88		85		70-130	3		20
1,2-Dibromoethane	95		93		70-130	2		20
1,3-Dichloropropane	95		93		70-130	2		20
1,1,1,2-Tetrachloroethane	89		87		70-130	2		20
Bromobenzene	94		93		70-130	1		20
n-Butylbenzene	91		89		70-130	2		20
sec-Butylbenzene	91		88		70-130	3		20
tert-Butylbenzene	92		89		70-130	3		20
o-Chlorotoluene	92		90		70-130	2		20
p-Chlorotoluene	90		88		70-130	2		20
1,2-Dibromo-3-chloropropane	92		90		70-130	2		20
Hexachlorobutadiene	87		84		70-130	4		20
Isopropylbenzene	91		89		70-130	2		20
p-Isopropyltoluene	92		90		70-130	2		20
Naphthalene	96		93		70-130	3		20
n-Propylbenzene	92		90		70-130	2		20
1,2,3-Trichlorobenzene	93		90		70-130	3		20
1,2,4-Trichlorobenzene	94		91		70-130	3		20
1,3,5-Trimethylbenzene	90		87		70-130	3		20
1,2,4-Trimethylbenzene	92		89		70-130	3		20
Diethyl ether	106		102		70-130	4		20
Diisopropyl Ether	100		97		70-130	3		20
Ethyl-Tert-Butyl-Ether	104		100		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952792

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1306294-3 WG1306294-4								
Tertiary-Amyl Methyl Ether	100		97		70-130	3		20
1,4-Dioxane	106		103		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		95		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	107		106		70-130
Dibromofluoromethane	105		104		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952792
Report Date: 11/08/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 05-06 QC Batch ID: WG1306293-6 WG1306293-7 QC Sample: L1952792-05 Client ID: GLX-TPW-401-VOC (3')												
Methylene chloride	ND	6500	6300	96		6300	96		70-130	0		30
1,1-Dichloroethane	ND	6500	6500	100		6500	99		70-130	1		30
Chloroform	ND	6500	6000	92		6000	92		70-130	1		30
Carbon tetrachloride	ND	6500	6200	95		6200	95		70-130	0		30
1,2-Dichloropropane	ND	6500	6600	101		6600	101		70-130	0		30
Dibromochloromethane	ND	6500	5900	90		6000	92		70-130	2		30
1,1,2-Trichloroethane	ND	6500	6000	92		6000	93		70-130	1		30
Tetrachloroethene	41	6500	6200	94		6200	95		70-130	1		30
Chlorobenzene	ND	6500	6000	92		6000	93		70-130	1		30
Trichlorofluoromethane	ND	6500	2000	**30**	Q	2400	**37**	Q	70-130	20		30
1,2-Dichloroethane	ND	6500	5600	86		5500	85		70-130	1		30
1,1,1-Trichloroethane	ND	6500	6200	96		6300	97		70-130	1		30
Bromodichloromethane	ND	6500	6100	93		6100	94		70-130	1		30
trans-1,3-Dichloropropene	ND	6500	6000	92		6100	93		70-130	1		30
cis-1,3-Dichloropropene	ND	6500	6400	98		6400	99		70-130	1		30
1,1-Dichloropropene	ND	6500	6700	103		6700	103		70-130	1		30
Bromoform	ND	6500	5800	90		6000	92		70-130	2		30
1,1,2,2-Tetrachloroethane	ND	6500	6100	93		6100	94		70-130	1		30
Benzene	ND	6500	6400	99		6500	99		70-130	0		30
Toluene	ND	6500	6300	97		6300	97		70-130	1		30
Ethylbenzene	ND	6500	6000	92		6000	92		70-130	0		30
Chloromethane	ND	6500	4900	76		4700	72		70-130	5		30
Bromomethane	ND	6500	3500	**54**	Q	4500	70		70-130	25		30

Matrix Spike Analysis
Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952792
Report Date: 11/08/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 05-06 QC Batch ID: WG1306293-6 WG1306293-7 QC Sample: L1952792-05 Client ID: GLX-TPW-401-VOC (3')												
Vinyl chloride	ND	6500	6000	92		5300	81		70-130	12		30
Chloroethane	ND	6500	2100	**33**	Q	2100	**32**	Q	70-130	1		30
1,1-Dichloroethene	ND	6500	6700	103		6600	102		70-130	1		30
trans-1,2-Dichloroethene	ND	6500	6700	104		6700	102		70-130	1		30
Trichloroethene	ND	6500	6400	98		6500	100		70-130	2		30
1,2-Dichlorobenzene	ND	6500	5900	90		5900	90		70-130	0		30
1,3-Dichlorobenzene	ND	6500	6000	92		6000	93		70-130	1		30
1,4-Dichlorobenzene	ND	6500	5800	90		5800	90		70-130	0		30
Methyl tert butyl ether	ND	6500	6200	96		6200	95		70-130	1		30
p/m-Xylene	ND	13000	12000	92		12000	92		70-130	0		30
o-Xylene	ND	13000	12000	90		12000	91		70-130	1		30
cis-1,2-Dichloroethene	ND	6500	6600	101		6600	102		70-130	1		30
Dibromomethane	ND	6500	6100	94		6100	93		70-130	0		30
1,2,3-Trichloropropane	ND	6500	5800	89		5800	89		70-130	0		30
Styrene	ND	13000	12000	91		12000	92		70-130	1		30
Dichlorodifluoromethane	ND	6500	3600	**55**	Q	3500	**53**	Q	70-130	3		30
Acetone	ND	6500	5600	86		5500	85		70-130	2		30
Carbon disulfide	ND	6500	6300	97		6200	95		70-130	2		30
Methyl ethyl ketone	ND	6500	5600	87		5700	88		70-130	1		30
Methyl isobutyl ketone	ND	6500	6200	95		6300	97		70-130	3		30
2-Hexanone	ND	6500	5200	80		5300	81		70-130	2		30
Bromochloromethane	ND	6500	6200	95		6200	95		70-130	1		30
Tetrahydrofuran	ND	6500	6500	100		6300	96		70-130	3		30

Matrix Spike Analysis
Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952792
Report Date: 11/08/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 05-06 QC Batch ID: WG1306293-6 WG1306293-7 QC Sample: L1952792-05 Client ID: GLX-TPW-401-VOC (3')												
2,2-Dichloropropane	ND	6500	6100	94		6100	94		70-130	1		30
1,2-Dibromoethane	ND	6500	6100	94		6200	96		70-130	1		30
1,3-Dichloropropane	ND	6500	6100	94		6100	94		70-130	0		30
1,1,1,2-Tetrachloroethane	ND	6500	5900	90		5900	91		70-130	1		30
Bromobenzene	ND	6500	6300	96		6300	97		70-130	1		30
n-Butylbenzene	ND	6500	6100	94		6100	94		70-130	0		30
sec-Butylbenzene	ND	6500	6300	97		6300	97		70-130	0		30
tert-Butylbenzene	ND	6500	6400	98		6400	98		70-130	0		30
o-Chlorotoluene	ND	6500	6200	95		6200	95		70-130	0		30
p-Chlorotoluene	ND	6500	6100	94		6100	93		70-130	1		30
1,2-Dibromo-3-chloropropane	ND	6500	5900	90		5900	91		70-130	0		30
Hexachlorobutadiene	ND	6500	5000	77		5000	77		70-130	0		30
Isopropylbenzene	ND	6500	6400	99		6400	98		70-130	1		30
p-Isopropyltoluene	ND	6500	6300	97		6300	97		70-130	0		30
Naphthalene	ND	6500	5900	91		6000	92		70-130	1		30
n-Propylbenzene	ND	6500	6400	99		6300	98		70-130	1		30
1,2,3-Trichlorobenzene	ND	6500	5400	83		5600	85		70-130	3		30
1,2,4-Trichlorobenzene	ND	6500	5500	85		5700	87		70-130	3		30
1,3,5-Trimethylbenzene	ND	6500	6100	94		6100	94		70-130	0		30
1,2,4-Trimethylbenzene	ND	6500	6200	95		6100	94		70-130	1		30
Diethyl ether	ND	6500	6600	102		6500	100		70-130	1		30
Diisopropyl Ether	ND	6500	6400	98		6300	97		70-130	2		30
Ethyl-Tert-Butyl-Ether	ND	6500	6500	100		6500	100		70-130	0		30

Matrix Spike Analysis

Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952792

Report Date: 11/08/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 05-06 QC Batch ID: WG1306293-6 WG1306293-7 QC Sample: L1952792-05 Client ID: GLX-TPW-401-VOC (3')												
Tertiary-Amyl Methyl Ether	ND	6500	6400	99		6500	99		70-130	0		30
1,4-Dioxane	ND	330000	420000	126		410000	123		70-130	2		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		89		70-130
4-Bromofluorobenzene	112		113		70-130
Dibromofluoromethane	101		100		70-130
Toluene-d8	100		101		70-130

INORGANICS
&
MISCELLANEOUS

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952792
Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-01
Client ID: GLX-TPW-403 (0'-3')
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/06/19 12:05
Date Received: 11/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	11/07/19 06:06	121,2540G	CG
pH	10.0	(H)	SU	-	NA	1	-	11/07/19 19:21	1,9045D	AS

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952792
Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-02
Client ID: GLX-TPW-401 (0'-3')
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/06/19 12:45
Date Received: 11/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.7		%	0.100	NA	1	-	11/07/19 06:06	121,2540G	CG
pH (H)	6.8		SU	-	NA	1	-	11/07/19 19:21	1,9045D	AS

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952792
Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-03
Client ID: GLX-TPW-402 (0'-6')
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/06/19 13:45
Date Received: 11/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.1		%	0.100	NA	1	-	11/07/19 06:06	121,2540G	CG
pH	9.2	(H)	SU	-	NA	1	-	11/07/19 19:21	1,9045D	AS

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952792
Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-04
Client ID: GLX-TPW-403-VOC (3')
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/06/19 12:05
Date Received: 11/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.1		%	0.100	NA	1	-	11/07/19 06:06	121,2540G	CG

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952792
Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-05
Client ID: GLX-TPW-401-VOC (3')
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/06/19 12:55
Date Received: 11/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.6		%	0.100	NA	1	-	11/07/19 06:06	121,2540G	CG

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000
Lab Number: L1952792
Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952792-06
Client ID: GLX-TPW-402-VOC (4')
Sample Location: WASHINGTON ST., SOMERVILLE, MA
Sample Depth:
Matrix: Soil

Date Collected: 11/06/19 13:45
Date Received: 11/06/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	11/07/19 06:06	121,2540G	CG

Lab Control Sample Analysis

Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952792

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1306006-1								
pH	100		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: LSP: WASHINGTON ST. PHASE 2

Project Number: 310142.0002.0000

Lab Number: L1952792

Report Date: 11/08/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1305638-1 QC Sample: L1952792-05 Client ID: GLX-TPW-401-VOC (3')						
Solids, Total	90.6	90.7	%	0		20

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952792-01A	Glass 60mL/2oz unpreserved	B	NA		10.0	Y	Absent		HOLD-METAL(180)
L1952792-01B	Glass 500ml/16oz unpreserved	B	NA		10.0	Y	Absent		HOLD-PETRO(14),TS(7),PH-9045(1),HOLD-8270(14),HOLD-8082(14)
L1952792-02A	Glass 60mL/2oz unpreserved	B	NA		10.0	Y	Absent		HOLD-METAL(180)
L1952792-02B	Glass 500ml/16oz unpreserved	B	NA		10.0	Y	Absent		HOLD-PETRO(14),TS(7),PH-9045(1),HOLD-8270(14),HOLD-8082(14)
L1952792-03A	Glass 60mL/2oz unpreserved	B	NA		10.0	Y	Absent		HOLD-METAL(180)
L1952792-03B	Glass 500ml/16oz unpreserved	B	NA		10.0	Y	Absent		HOLD-PETRO(14),TS(7),PH-9045(1),HOLD-8270(14),HOLD-8082(14)
L1952792-04A	Vial MeOH preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-04B	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-04C	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-04D	Plastic 2oz unpreserved for TS	B	NA		10.0	Y	Absent		TS(7)
L1952792-05A	Vial MeOH preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05A1	Vial MeOH preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05A2	Vial MeOH preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05A3	Vial MeOH preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05B	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05B1	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05B2	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05B3	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05C	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05C1	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05C2	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-05C3	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)

*Values in parentheses indicate holding time in days

Project Name: LSP: WASHINGTON ST. PHASE 2
Project Number: 310142.0002.0000

Lab Number: L1952792
Report Date: 11/08/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952792-05D	Plastic 2oz unpreserved for TS	B	NA		10.0	Y	Absent		TS(7)
L1952792-05D1	Plastic 2oz unpreserved for TS	B	NA		10.0	Y	Absent		TS(7)
L1952792-05D2	Plastic 2oz unpreserved for TS	B	NA		10.0	Y	Absent		TS(7)
L1952792-05D3	Plastic 2oz unpreserved for TS	B	NA		10.0	Y	Absent		TS(7)
L1952792-06A	Vial MeOH preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-06B	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-06C	Vial NaHSO4 preserved	B	NA		10.0	Y	Absent		MCP-8260HLG-10(14)
L1952792-06D	Plastic 2oz unpreserved for TS	B	NA		10.0	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name:	LSP: WASHINGTON ST. PHASE 2	**Lab Number:**	L1952792
Project Number:	310142.0002.0000	**Report Date:**	11/08/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	LSP: WASHINGTON ST. PHASE 2	**Lab Number:**	L1952792
Project Number:	310142.0002.0000	**Report Date:**	11/08/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	LSP: WASHINGTON ST. PHASE 2	**Lab Number:**	L1952792
Project Number:	310142.0002.0000	**Report Date:**	11/08/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/6/19

ALPHA Job #: L1952792

Client Information

Client: TRC Companies
Address: 2 Liberty Sq. Boston, MA
Phone: (617) 476-1303
Fax:
Email: RNiles@trccompanies.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LSP: Washington St Phase 2
Project Location: Washington St Somerville, MA
Project #: 310142.0002.0000
Project Manager: Ryan Niles
ALPHA Quote #:

Turn-Around Time

☐ Standard ☑ Rush (ONLY IF PRE-APPROVED)
48-hour tat
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 144888

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Please send results to: KMorin@trccompanies.com and RIyer@trccompanies.com

note 401 and 402 only could get down to 3' due to rock and utilities

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC via 5035/820C (High Level)	VOC via 5035/820C (Low Level)	Ignitability via 1030, pH via 9045	TPH via 80150C GC-FID Quant	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metasl via 6010C/7471B	Reclvive Sulfide & Cyanide via 7.3	tclp Lead	SVOCs via 8270D	Specific Conductance via 9050			Sample Specific Comments	TOTAL # BOTTLES
52792-01	GLX-TPW-403 (0-3')	1205	11/06	Soil	APC	☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	HOLD, RUN pH	
-02	GLX-TPW-401 (0-3')	1245	11/06/19			☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	HOLD, RUN pH	
-03	GLX-TPW-402 (0-6')	1345	11/06/19			☐	☐	☑	☑	☑	☑	☑	☑	☑	☑	☐	☐	HOLD, RUN pH	
-04	GLX-TPW-403-VOC (3')	1205	11/06/19			☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	RUN	3
-05	GLX-TPW-401-VOC (3')	1245	11/06/19			☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	RUN	3
↓	MS/MSD GLX-TPW-401-VOC	1245	11/06/19			☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	RUN	12
-06	GLX-TPW-402-VOC (4')	1345	11/06/19			☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	RUN	3
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
				Container Type		-	-	-	-	-	-	-	-	-	-	-	-		
				Preservative		-	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible] - Copies	11/6/19 5:15	[illegible]	11/6/19 1525
[illegible]	11/6/19 1820	[illegible]	11/6/19 1822

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952792
Project Name	: LSP: WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1306294-5	**Lab File ID**	: V10191107A05
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 11/07/19 08:51

Client Sample No.	Lab Sample ID	Analysis Date
WG1306294-3LCS	WG1306294-3	11/07/19 07:08
WG1306294-4LCSD	WG1306294-4	11/07/19 07:34
GLX-TPW-403-VOC (3')	L1952792-04	11/07/19 16:46

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952792
Project Name	: LSP: WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000
Lab Sample ID	: WG1306293-5	**Lab File ID**	: V10191107A05
Instrument ID	: VOA110		
Matrix	: SOIL	**Analysis Date**	: 11/07/19 08:51

Client Sample No.	Lab Sample ID	Analysis Date
WG1306293-3LCS	WG1306293-3	11/07/19 07:08
WG1306293-4LCSD	WG1306293-4	11/07/19 07:34
GLX-TPW-401-VOC (3')	L1952792-05	11/07/19 15:54
GLX-TPW-402-VOC (4')	L1952792-06	11/07/19 16:20
GLX-TPW-401-VOC (3')MS	WG1306293-6	11/07/19 17:11
GLX-TPW-401-VOC (3')MSD	WG1306293-7	11/07/19 17:37

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952792		
Project Name	: LSP: WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA110	**Calibration Date**	: 11/07/19 07:08		
Lab File ID	: V10191107A01	**Init. Calib. Date(s)**	: 09/18/19	09/18/19	
Sample No	: WG1306293-2	**Init. Calib. Times**	: 17:36	21:00	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	86	0
Dichlorodifluoromethane	0.281	0.128	-	54.4*	20	37	0
Chloromethane	0.298	0.202	-	32.2*	20	61	0
Vinyl chloride	0.283	0.236	-	16.6	20	71	0
Bromomethane	40	28.657	-	28.4*	20	69	0
Chloroethane	0.195	0.152	-	22.1*	20	70	0
Trichlorofluoromethane	0.371	0.325	-	12.4	20	72	0
Ethyl ether	0.136	0.144	-	-5.9	20	91	0
1,1-Dichloroethene	0.216	0.193	-	10.6	20	76	0
Carbon disulfide	0.719	0.61	-	15.2	20	73	0
Freon-113	0.211	0.196*	-	7.1	20	75	0
Acrolein	0.044	0.046*	-	-4.5	20	87	0
Methylene chloride	0.249	0.236	-	5.2	20	83	0
Acetone	40	37.915	-	5.2	20	86	0
trans-1,2-Dichloroethene	0.244	0.227	-	7	20	79	0
Methyl acetate	0.153	0.165	-	-7.8	20	89	0
Methyl tert-butyl ether	0.7	0.692	-	1.1	20	83	0
tert-Butyl alcohol	0.032	0.033*	-	-3.1	20	84	0
Diisopropyl ether	0.799	0.795	-	0.5	20	85	0
1,1-Dichloroethane	0.455	0.429	-	5.7	20	81	0
Halothane	0.185	0.181	-	2.2	20	82	0
Acrylonitrile	0.075	0.081	-	-8	20	81	0
Ethyl tert-butyl ether	0.782	0.811	-	-3.7	20	88	0
Vinyl acetate	0.592	0.508	-	14.2	20	66	0
cis-1,2-Dichloroethene	0.265	0.25	-	5.7	20	80	0
2,2-Dichloropropane	0.393	0.348	-	11.5	20	77	0
Bromochloromethane	0.125	0.119	-	4.8	20	79	0
Cyclohexane	0.404	0.4	-	1	20	82	0
Chloroform	0.451	0.398	-	11.8	20	78	0
Ethyl acetate	0.246	0.24	-	2.4	20	81	0
Carbon tetrachloride	0.369	0.323	-	12.5	20	77	0
Tetrahydrofuran	0.081	0.087	-	-7.4	20	89	0
Dibromofluoromethane	0.253	0.266	-	-5.1	20	90	0
1,1,1-Trichloroethane	0.394	0.352	-	10.7	20	76	0
2-Butanone	40	34.879	-	12.8	20	71	-.01
1,1-Dichloropropene	0.328	0.302	-	7.9	20	77	0
Benzene	0.98	0.895	-	8.7	20	80	0
tert-Amyl methyl ether	0.704	0.703	-	0.1	20	85	0
1,2-Dichloroethane-d4	0.286	0.276	-	3.5	20	85	0
1,2-Dichloroethane	0.353	0.317	-	10.2	20	76	0
Methyl cyclohexane	0.39	0.377	-	3.3	20	78	0
Trichloroethene	0.255	0.234	-	8.2	20	80	0
Dibromomethane	0.155	0.147	-	5.2	20	80	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952792		
Project Name	: LSP: WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA110	**Calibration Date**	: 11/07/19 07:08		
Lab File ID	: V10191107A01	**Init. Calib. Date(s)**	: 09/18/19	09/18/19	
Sample No	: WG1306293-2	**Init. Calib. Times**	: 17:36	21:00	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.252	0.248	-	1.6	20	83	0
2-Chloroethyl vinyl ether	0.154	0.156	-	-1.3	20	79	0
Bromodichloromethane	0.345	0.314	-	9	20	78	0
1,4-Dioxane	0.00243	0.00256*	-	-5.3	20	86	0
cis-1,3-Dichloropropene	0.406	0.393	-	3.2	20	80	0
Chlorobenzene-d5	1	1	-	0	20	89	0
Toluene-d8	1.293	1.289	-	0.3	20	89	0
Toluene	0.836	0.741	-	11.4	20	79	0
4-Methyl-2-pentanone	0.129	0.127	-	1.6	20	82	0
Tetrachloroethene	0.337	0.284	-	15.7	20	74	0
trans-1,3-Dichloropropene	0.489	0.45	-	8	20	78	0
Ethyl methacrylate	0.414	0.384	-	7.2	20	79	0
1,1,2-Trichloroethane	0.239	0.222	-	7.1	20	82	0
Chlorodibromomethane	0.356	0.325	-	8.7	20	79	0
1,3-Dichloropropane	0.491	0.465	-	5.3	20	82	0
1,2-Dibromoethane	0.285	0.27	-	5.3	20	80	0
2-Hexanone	0.232	0.185	-	20.3*	20	71	0
Chlorobenzene	0.966	0.854	-	11.6	20	80	0
Ethylbenzene	1.63	1.409	-	13.6	20	77	0
1,1,1,2-Tetrachloroethane	0.345	0.305	-	11.6	20	79	0
p/m Xylene	0.611	0.535	-	12.4	20	77	0
o Xylene	0.596	0.527	-	11.6	20	78	0
Styrene	0.991	0.875	-	11.7	20	77	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	83	0
Bromoform	0.427	0.399	-	6.6	20	75	0
Isopropylbenzene	3.089	2.808	-	9.1	20	75	0
4-Bromofluorobenzene	0.939	1	-	-6.5	20	88	0
Bromobenzene	0.748	0.705	-	5.7	20	77	0
n-Propylbenzene	3.694	3.41	-	7.7	20	77	0
1,4-Dichlorobutane	1.054	0.985	-	6.5	20	79	0
1,1,2,2-Tetrachloroethane	0.755	0.726	-	3.8	20	77	0
4-Ethyltoluene	2.986	2.91	-	2.5	20	80	0
2-Chlorotoluene	2.183	2.015	-	7.7	20	77	0
1,3,5-Trimethylbenzene	2.628	2.364	-	10	20	74	0
1,2,3-Trichloropropane	0.616	0.575	-	6.7	20	76	0
trans-1,4-Dichloro-2-buten	0.23	0.211	-	8.3	20	75	0
4-Chlorotoluene	2.284	2.067	-	9.5	20	75	0
tert-Butylbenzene	2.267	2.074	-	8.5	20	75	0
1,2,4-Trimethylbenzene	2.587	2.37	-	8.4	20	75	0
sec-Butylbenzene	3.34	3.04	-	9	20	74	0
p-Isopropyltoluene	2.916	2.675	-	8.3	20	75	0
1,3-Dichlorobenzene	1.47	1.363	-	7.3	20	76	0
1,4-Dichlorobenzene	1.508	1.364	-	9.5	20	76	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952792		
Project Name	: LSP: WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA110	**Calibration Date**	: 11/07/19 07:08		
Lab File ID	: V10191107A01	**Init. Calib. Date(s)**	: 09/18/19	09/18/19	
Sample No	: WG1306293-2	**Init. Calib. Times**	: 17:36	21:00	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.722	1.678	-	2.6	20	80	0
n-Butylbenzene	2.69	2.452	-	8.8	20	75	0
1,2-Dichlorobenzene	1.383	1.291	-	6.7	20	76	0
1,2,4,5-Tetramethylbenzene	2.747	2.684	-	2.3	20	82	0
1,2-Dibromo-3-chloropropan	0.132	0.122	-	7.6	20	72	0
1,3,5-Trichlorobenzene	1.028	0.979	-	4.8	20	79	0
Hexachlorobutadiene	0.47	0.408	-	13.2	20	73	0
1,2,4-Trichlorobenzene	0.94	0.883	-	6.1	20	78	0
Naphthalene	2.449	2.348	-	4.1	20	78	0
1,2,3-Trichlorobenzene	0.889	0.828	-	6.9	20	79	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952792		
Project Name	: LSP: WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA110	**Calibration Date**	: 11/07/19 07:08		
Lab File ID	: V10191107A01	**Init. Calib. Date(s)**	: 09/18/19	09/18/19	
Sample No	: WG1306294-2	**Init. Calib. Times**	: 17:36	21:00	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	86	0
Dichlorodifluoromethane	0.281	0.128	-	54.4*	20	37	0
Chloromethane	0.298	0.202	-	32.2*	20	61	0
Vinyl chloride	0.283	0.236	-	16.6	20	71	0
Bromomethane	40	28.657	-	28.4*	20	69	0
Chloroethane	0.195	0.152	-	22.1*	20	70	0
Trichlorofluoromethane	0.371	0.325	-	12.4	20	72	0
Ethyl ether	0.136	0.144	-	-5.9	20	91	0
1,1-Dichloroethene	0.216	0.193	-	10.6	20	76	0
Carbon disulfide	0.719	0.61	-	15.2	20	73	0
Freon-113	0.211	0.196*	-	7.1	20	75	0
Acrolein	0.044	0.046*	-	-4.5	20	87	0
Methylene chloride	0.249	0.236	-	5.2	20	83	0
Acetone	40	37.915	-	5.2	20	86	0
trans-1,2-Dichloroethene	0.244	0.227	-	7	20	79	0
Methyl acetate	0.153	0.165	-	-7.8	20	89	0
Methyl tert-butyl ether	0.7	0.692	-	1.1	20	83	0
tert-Butyl alcohol	0.032	0.033*	-	-3.1	20	84	0
Diisopropyl ether	0.799	0.795	-	0.5	20	85	0
1,1-Dichloroethane	0.455	0.429	-	5.7	20	81	0
Halothane	0.185	0.181	-	2.2	20	82	0
Acrylonitrile	0.075	0.081	-	-8	20	81	0
Ethyl tert-butyl ether	0.782	0.811	-	-3.7	20	88	0
Vinyl acetate	0.592	0.508	-	14.2	20	66	0
cis-1,2-Dichloroethene	0.265	0.25	-	5.7	20	80	0
2,2-Dichloropropane	0.393	0.348	-	11.5	20	77	0
Bromochloromethane	0.125	0.119	-	4.8	20	79	0
Cyclohexane	0.404	0.4	-	1	20	82	0
Chloroform	0.451	0.398	-	11.8	20	78	0
Ethyl acetate	0.246	0.24	-	2.4	20	81	0
Carbon tetrachloride	0.369	0.323	-	12.5	20	77	0
Tetrahydrofuran	0.081	0.087	-	-7.4	20	89	0
Dibromofluoromethane	0.253	0.266	-	-5.1	20	90	0
1,1,1-Trichloroethane	0.394	0.352	-	10.7	20	76	0
2-Butanone	40	34.879	-	12.8	20	71	-.01
1,1-Dichloropropene	0.328	0.302	-	7.9	20	77	0
Benzene	0.98	0.895	-	8.7	20	80	0
tert-Amyl methyl ether	0.704	0.703	-	0.1	20	85	0
1,2-Dichloroethane-d4	0.286	0.276	-	3.5	20	85	0
1,2-Dichloroethane	0.353	0.317	-	10.2	20	76	0
Methyl cyclohexane	0.39	0.377	-	3.3	20	78	0
Trichloroethene	0.255	0.234	-	8.2	20	80	0
Dibromomethane	0.155	0.147	-	5.2	20	80	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L1952792		
Project Name	: LSP: WASHINGTON ST PHASE 2	**Project Number**	: 310142.0002.0000		
Instrument ID	: VOA110	**Calibration Date**	: 11/07/19 07:08		
Lab File ID	: V10191107A01	**Init. Calib. Date(s)**	: 09/18/19	09/18/19	
Sample No	: WG1306294-2	**Init. Calib. Times**	: 17:36	21:00	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.252	0.248	-	1.6	20	83	0
2-Chloroethyl vinyl ether	0.154	0.156	-	-1.3	20	79	0
Bromodichloromethane	0.345	0.314	-	9	20	78	0
1,4-Dioxane	0.00243	0.00256*	-	-5.3	20	86	0
cis-1,3-Dichloropropene	0.406	0.393	-	3.2	20	80	0
Chlorobenzene-d5	1	1	-	0	20	89	0
Toluene-d8	1.293	1.289	-	0.3	20	89	0
Toluene	0.836	0.741	-	11.4	20	79	0
4-Methyl-2-pentanone	0.129	0.127	-	1.6	20	82	0
Tetrachloroethene	0.337	0.284	-	15.7	20	74	0
trans-1,3-Dichloropropene	0.489	0.45	-	8	20	78	0
Ethyl methacrylate	0.414	0.384	-	7.2	20	79	0
1,1,2-Trichloroethane	0.239	0.222	-	7.1	20	82	0
Chlorodibromomethane	0.356	0.325	-	8.7	20	79	0
1,3-Dichloropropane	0.491	0.465	-	5.3	20	82	0
1,2-Dibromoethane	0.285	0.27	-	5.3	20	80	0
2-Hexanone	0.232	0.185	-	20.3*	20	71	0
Chlorobenzene	0.966	0.854	-	11.6	20	80	0
Ethylbenzene	1.63	1.409	-	13.6	20	77	0
1,1,1,2-Tetrachloroethane	0.345	0.305	-	11.6	20	79	0
p/m Xylene	0.611	0.535	-	12.4	20	77	0
o Xylene	0.596	0.527	-	11.6	20	78	0
Styrene	0.991	0.875	-	11.7	20	77	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	83	0
Bromoform	0.427	0.399	-	6.6	20	75	0
Isopropylbenzene	3.089	2.808	-	9.1	20	75	0
4-Bromofluorobenzene	0.939	1	-	-6.5	20	88	0
Bromobenzene	0.748	0.705	-	5.7	20	77	0
n-Propylbenzene	3.694	3.41	-	7.7	20	77	0
1,4-Dichlorobutane	1.054	0.985	-	6.5	20	79	0
1,1,2,2-Tetrachloroethane	0.755	0.726	-	3.8	20	77	0
4-Ethyltoluene	2.986	2.91	-	2.5	20	80	0
2-Chlorotoluene	2.183	2.015	-	7.7	20	77	0
1,3,5-Trimethylbenzene	2.628	2.364	-	10	20	74	0
1,2,3-Trichloropropane	0.616	0.575	-	6.7	20	76	0
trans-1,4-Dichloro-2-buten	0.23	0.211	-	8.3	20	75	0
4-Chlorotoluene	2.284	2.067	-	9.5	20	75	0
tert-Butylbenzene	2.267	2.074	-	8.5	20	75	0
1,2,4-Trimethylbenzene	2.587	2.37	-	8.4	20	75	0
sec-Butylbenzene	3.34	3.04	-	9	20	74	0
p-Isopropyltoluene	2.916	2.675	-	8.3	20	75	0
1,3-Dichlorobenzene	1.47	1.363	-	7.3	20	76	0
1,4-Dichlorobenzene	1.508	1.364	-	9.5	20	76	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L1952792	
Project Name	: LSP: WASHINGTON ST PHASE 2		**Project Number**	: 310142.0002.0000	
Instrument ID	: VOA110		**Calibration Date**	: 11/07/19 07:08	
Lab File ID	: V10191107A01		**Init. Calib. Date(s)**	: 09/18/19	09/18/19
Sample No	: WG1306294-2		**Init. Calib. Times**	: 17:36	21:00
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.722	1.678	-	2.6	20	80	0
n-Butylbenzene	2.69	2.452	-	8.8	20	75	0
1,2-Dichlorobenzene	1.383	1.291	-	6.7	20	76	0
1,2,4,5-Tetramethylbenzene	2.747	2.684	-	2.3	20	82	0
1,2-Dibromo-3-chloropropan	0.132	0.122	-	7.6	20	72	0
1,3,5-Trichlorobenzene	1.028	0.979	-	4.8	20	79	0
Hexachlorobutadiene	0.47	0.408	-	13.2	20	73	0
1,2,4-Trichlorobenzene	0.94	0.883	-	6.1	20	78	0
Naphthalene	2.449	2.348	-	4.1	20	78	0
1,2,3-Trichlorobenzene	0.889	0.828	-	6.9	20	79	0

*** Value outside of QC limits.**

APPENDIX D

SEPTEMBER 2020 CONTAINED-IN DETERMINATION

GLX CONSTRUCTORS

2 Liberty Sq., 6th Floor
Boston, MA 02109

T 617.350.3444
TRCcompanies.com

September 11, 2020

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Northeast Regional Office
205B Lowell Street,
Wilmington, MA 01887

Re: Contained-In Determination for Soil from Site RTN 3-34742 (Downgradient Property Status from RTN 3-23246)

Dear Program Manager,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), I have made a "contained-in" determination regarding soil from the following M.G.L. c. 21E disposal site:

RTN: 3 - 34742[1]
Site Name: MBTA Green Line Extension
Street Address: 132 Washington Street
City/Town: Somerville, MA
Zip Code: 02145

The soil contained the listed hazardous waste(s) with waste code: U210 and U228, which MassDEP is authorized to regulate under the Resource Conservation and Recovery Act (RCRA) by the U.S. Environmental Protection Agency (USEPA). However, the soil (check one):

☒ Met all applicable S-1 standards upon removal*; or
☐ Was treated through a method of treatment other than dilution so as to meet all applicable S-1 standards.

* The soil has been characterized in-situ and has been determined to meet applicable S-1 standards.

The levels of the listed hazardous waste constituents in the generated soil are:

Table 1
Summary of Detected Listed Waste within Contained-In Determination

Sample	Date	Substance	Results ppm	Applicable S-1 Standard		
				S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
WASH-MH212(A)-DC-VOC-1	7/17/2020	Tetrachloroethylene (127-18-4)	0.0048	1 ppm	10 ppm	30 ppm
WASH-MH212(B)-DC-VOC-1	7/17/2020	Tetrachloroethylene (127-18-4)	0.0036			

[1] RTN 3-34742 was issued by MassDEP to MBTA related to CVOC contamination in groundwater on the MBTA's property at 132 Washington Street in Somerville, which is downgradient of the 50 Tufts Street property and its associated RTN 3-23246.

Sample	Date	Substance	Results ppm	Applicable S-1 Standard		
				S-1 Soil & GW-1	S-1 Soil & GW-2	S-1 Soil & GW-3
WASH-MH212(C)-DC-VOC-1	7/17/2020	Tetrachloroethylene (127-18-4)	0.0046	1 ppm	10 ppm	30 ppm
WASH-MH212(D)-DC-VOC-1	7/17/2020	Tetrachloroethylene (127-18-4)	0.0046			
WASH-MH212(E)-DC-VOC-1	7/17/2020	Tetrachloroethylene (127-18-4)	0.0043			
WASH-MH212(F)-DC-VOC-1	7/17/2020	Tetrachloroethylene (127-18-4)	0.0051			
WASH-MH186(B)-DC-VOC	8/7/2020	Tetrachloroethylene (127-18-4)	0.0087			
WASH-MH186(C)-DC-VOC	8/7/2020	Tetrachloroethylene (127-18-4)	0.010			
WASH-MH186(A)-DC-VOC	8/7/2020	Tetrachloroethylene (127-18-4)	0.0094			
		Trichloroethylene (79-01-6)	0.0021	0.3 ppm	0.3 ppm	30 ppm
WASH-MH119A-DC-VOC	8/18/2020	Trichloroethylene (79-01-6)	0.00062			
		Tetrachloroethylene (127-18-4)	0.0038	1 ppm	10 ppm	30 ppm
WASH-MH119B-DC-VOC	8/18/2020	Tetrachloroethylene (127-18-4)	0.0066			
		Trichloroethylene (79-01-6)	0.00078	0.3 ppm	0.3 ppm	30 ppm
WASH-MH119C-DC-VOC	8/18/2020	Tetrachloroethylene (127-18-4)	0.003	1 ppm	10 ppm	30 ppm
WASH-MH281A-DC-VOC	8/18/2020	Tetrachloroethylene (127-18-4)	0.0018			
WASH-MH281B-DC-VOC	8/18/2020	Tetrachloroethylene (127-18-4)	0.0013			
WASH-MH281C-DC-VOC	8/18/2020	Tetrachloroethylene (127-18-4)	0.0013			
WASH-MH281D-DC-VOC	8/18/2020	Tetrachloroethylene (127-18-4)	0.0014			
		Trichloroethylene (79-01-6)	0.00046	0.3 ppm	0.3 ppm	30 ppm

Tetrachloroethylene - Analytical results ranged from non-detect (1 sample) to 0.01 mg/kg. The sixteen samples in the table above are included in this proposed contained-in memorandum.

Trichloroethylene - Analytical results ranged from non-detect (13 samples) to 0.0078 mg/kg. The four samples in the table above are included in this proposed contained-in memorandum.

These determinations were made through the testing of 17 soil samples, 1 sample was non-detect; sixteen contained detectable PCE but below S-1 standards and eligible for a contained-In determination (**Table 1**). TRC collected the soil samples from stockpiles WASH-MH212 on July 17, 2020, WASH-MH186 on August 7, 2020, and WASH-MH119 and WASH-MH281 on August 18, 2020. The four stockpiles were generated by the construction of

deep drainage structures approximately 20 feet and 80 feet to the north and south of Washington Street near the intersection of Washington Street and Tufts Street in Somerville, Massachusetts (see **Figure 1**). The generation location of stockpile WASH-MH212 was previously sampled in-situ (sample GLX-TPW-413) and approved by MassDEP under the Contained-In Determination dated April 20, 2020 for excavations up to ten feet below ground surface; however, WASH-MH212 was generated during the excavation of the bottom ten feet of the manhole-212 structure, necessitating that the stockpile receive a new contained-in determination. Stockpiles WASH-MH186, WASH-MH119, and WASH-MH281 have not been previously characterized. GLXC stockpiled soil from MH-186, MH-119, and MH-281 immediately adjacent to each structure as it was generated, and soil from MH-212 was stockpiled on the on the west side of the MBTA right of way. The stockpile staging locations on site are shown in **Figure 2**.

Soil was sampled at a frequency of one grab sample per each estimated 50 cubic yards of the stockpiled soil. The sixteen soil samples included in this petition represent a volume of up to 800 cubic yards. A field geologist screened soils from eight locations around each pile with a PID with an 11.7 eV lamp. The locations with the highest total organic vapors were collected as grab samples for volatile organic compound (VOC) analysis. The four stockpiles are covered in polyethylene sheeting and marked with signs. Stockpile sampling was conducted in a representative manner that adequately demonstrated the levels of hazardous material present in the soil. The concentrations of the listed hazardous waste constituents in the sampled soil are summarized in **Table 1**, attached.

I understand that my "contained-in" determination is subject to a 21-day holding period, during which the determination is subject to review by the MassDEP and that the soil cannot be handled as non-hazardous waste until the 21-day review period passes without objection from MassDEP or USEPA.

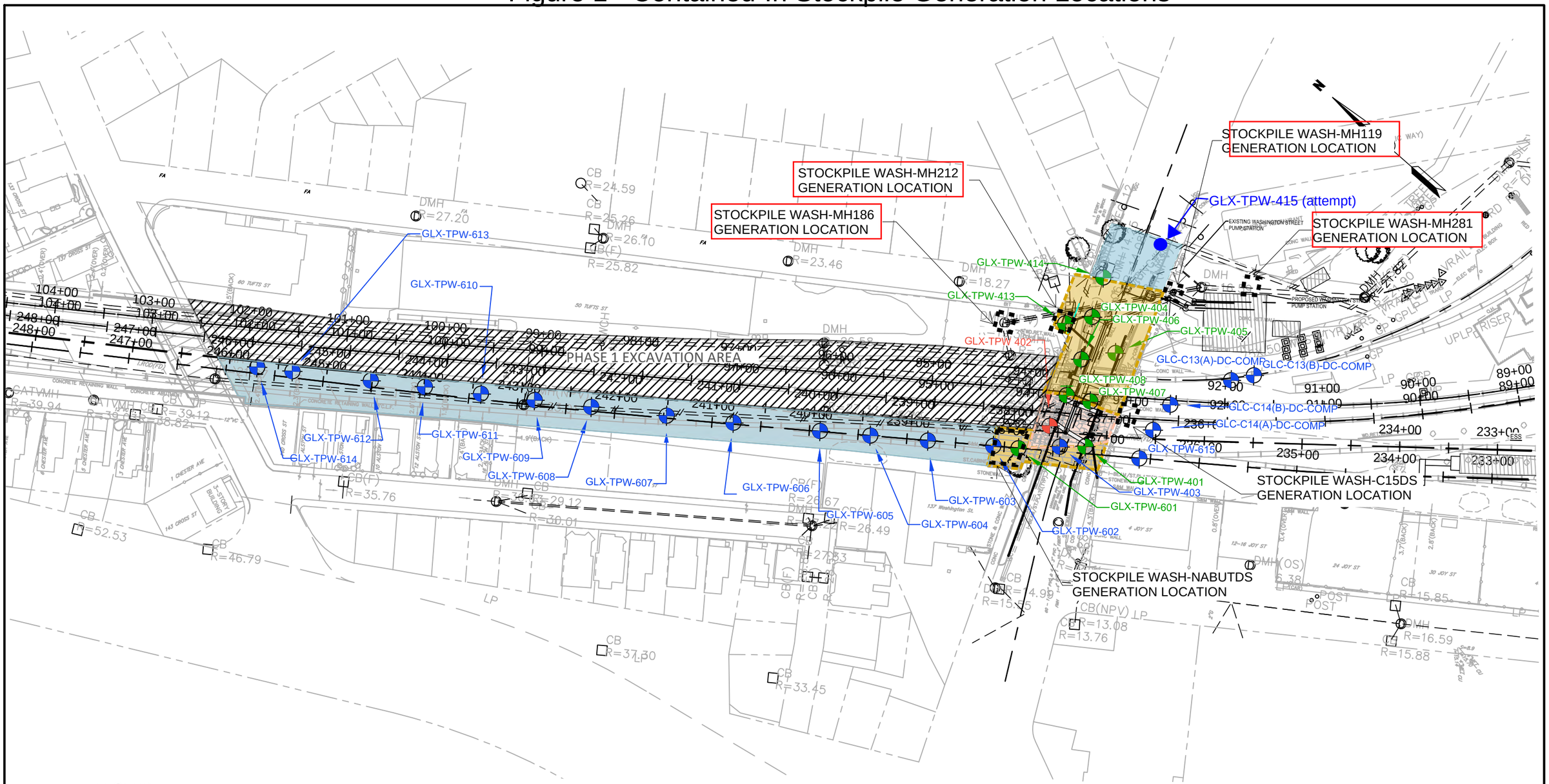
I also understand that if the soil is to be transported out-of-state, it must first be determined if the operator of the landfill or other receiving facility and the relevant state agency (or the relevant USEPA region, if the state does not administer the RCRA program) are willing to accept contained-in determinations performed by a Massachusetts Licensed Site Professional. In doing so, the process by which "contained-in" determinations are performed in Massachusetts will be explained to the relevant parties and proper documentation of all conversations will be retained.

I, Christopher McDermott, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

By: _____ _____ _____
Signature Date
LSP #: 1955
LSP Name: Christopher McDermott
Telephone: 617 350 3406 ext: _____ fax: 617 350 3443
For: Massachusetts Bay Transportation Authority
Name of person or entity

Attachments
Attachment 1: Figure 1 – Contained-In Stockpile Generation locations
Attachment 2: Figure 2 – Washington Street Stockpile Area
Attachment 3: Table 1 – Summary of Analytical Results for Soil Samples
Attachment 4: Laboratory Data Packages

Figure 1 - Contained-In Stockpile Generation Locations



LEGEND:

- SAMPLE LOCATIONS WITH NO DETECTABLE CONCENTRATIONS OF LISTED WASTES
- SAMPLE LOCATIONS WITH CONCENTRATIONS EXCEEDING S-1 CRITERIA
- SAMPLE LOCATIONS WITH DETECTABLE CONCENTRATIONS BELOW S-1 CRITERIA
- SAMPLE LOCATIONS NOT YET COLLECTED
- PHASE 2 SOIL INCLUDED IN CONTAINED-IN DETERMINATION
- PHASE 2 SOIL TO BE CONSIDERED HAZARDOUS WASTE
- PHASE 2 SOIL LOCATIONS WITH NO DETECTABLE CONCENTRATIONS OF LISTED WASTES
- PHASE 1 REMOVAL AREA, SOIL EXCAVATION IN (2019)

SUPPORTING SAMPLE DATA AND LAB REPORT ATTACHED

0 100 200 Feet

REFERENCE BASE MAP:
BAI-GLX-EC
HORIZONTAL DATUM: 1983
STATE PLAN FEET
MASSACHUSETTS
VERTICAL DATUM: NAD88

NOT AUTHORIZED FOR CONSTRUCTION

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

GREEN LINE EXTENSION PROJECT
MBTA CONTRACT NO. E22CN07
CAMBRIDGE / SOMERVILLE / MEDFORD, MASSACHUSETTS

WASHINGTON STREET
FIGURE
CONTAINED-IN AMENDMENT

SCALE:	DRAWN BY	DESIGN BY	CHECK BY	PLAN NO.:	ISSUE
1"=100				.	.
DATE: 3/6/20	RI	RI	TC/RN	SHEET: FIG 4	

S:\Environmental\Projects\MBTA GLX\STV_GLX 290762\CAD\Precharacterization\WashingtonStreetDataMap_362020_Contained-in_recover.dwg

Figure 2: Washington Street Stockpile Area

Legend

Stockpile Bins

0 50 100 Feet

DRAWN BY: JLD	CHECKED BY: BNA
SOURCE: UAS Imagery 11/25/19	
DATE: 08/21/2020	

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July and August, 2020

						LOCATION	WASH-MH212(A)-DC-VOC-1		WASH-MH212(B)-DC-VOC-1		WASH-MH212(C)-DC-VOC-1		WASH-MH212(D)-DC-VOC-1	
						SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		7/17/2020	
						LAB SAMPLE ID	20G1126-01		20G1126-02		20G1126-03		20G1126-04	
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by EPA 5035														
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0048		0.0036		0.0046		0.0046	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	-	-	-	-	-	-	-	-
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	Benzene	71-43-2	2	40	40	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Toluene	108-88-3	30	500	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Chloromethane	74-87-3				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Chloroethane	75-00-3				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	-	-	-	-	-	-	-	-
	Dibromomethane	74-95-3				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Styrene	100-42-5	3	4	70	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Acetone	67-64-1	6	50	400	mg/kg	0.21		0.088	U	0.31		0.20	
	Carbon disulfide	75-15-0				mg/kg	0.0049	U	0.0053	U	0.0046	U	0.0053	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.033	U	0.035	U	0.031	U	0.035	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.016	U	0.018	U	0.015	U	0.018	U
	2-Hexanone	591-78-6				mg/kg	0.016	U	0.018	U	0.015	U	0.018	U
	Bromochloromethane	74-97-5				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Bromobenzene	108-86-1				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July and August, 2020

						LOCATION	WASH-MH212(A)-DC-VOC-1		WASH-MH212(B)-DC-VOC-1		WASH-MH212(C)-DC-VOC-1		WASH-MH212(D)-DC-VOC-1	
						SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		7/17/2020	
						LAB SAMPLE ID	20G1126-01		20G1126-02		20G1126-03		20G1126-04	
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual
	o-Chlorotoluene	95-49-8				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0033	U	0.0035	U	0.0031	U	0.0035	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0016	U	0.0018	U	0.0015	U	0.0018	U
	Diethyl ether	60-29-7				mg/kg	0.0082	U	0.0088	U	0.0077	U	0.0088	U
	Diisopropyl Ether	108-20-3				mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.00082	U	0.00088	U	0.00077	U	0.00088	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.082	U	0.088	U	0.077	U	0.088	U

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July and August, 2020

						LOCATION	WASH-MH212(E)-DC-VOC-1		WASH-MH212(F)-DC-VOC-1		WASH-MH212(G)-DC-VOC-1		Wash-MH186(A)-DC-VOC		Wash-MH186(B)-DC-VOC
						SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		8/7/2020		8/7/2020
						LAB SAMPLE ID	20G1126-05		20G1126-06		20G1126-07		20H0387-01		20H0387-02
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results
MCP Volatile Organics by EPA 5035															
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0043		0.0051		0.0022	U	0.0094		0.0087
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Trichlorofluoromethane	75-69-4				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	-	-	-	-	-	-	-	-	-
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	Benzene	71-43-2	2	40	40	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Toluene	108-88-3	30	500	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Chloromethane	74-87-3				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Chloroethane	75-00-3				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0021		0.0021
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0044		0.0021
	1,2-Dichloroethene, Total	540-59-0				mg/kg	-	-	-	-	-	-	-	-	-
	Dibromomethane	74-95-3				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Styrene	100-42-5	3	4	70	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Dichlorodifluoromethane	75-71-8				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Acetone	67-64-1	6	50	400	mg/kg	0.19		0.085	U	0.16		0.083	U	0.1
	Carbon disulfide	75-15-0				mg/kg	0.0042	U	0.0051	U	0.0066	U	0.005	U	0.0062
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.028	U	0.034	U	0.044	U	0.033	U	0.041
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.014	U	0.017	U	0.022	U	0.017	U	0.021
	2-Hexanone	591-78-6				mg/kg	0.014	U	0.017	U	0.022	U	0.017	U	0.021
	Bromochloromethane	74-97-5				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Tetrahydrofuran	109-99-9				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,3-Dichloropropane	142-28-9				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Bromobenzene	108-86-1				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July and August, 2020

							LOCATION	WASH-MH212(E)-DC-VOC-1		WASH-MH212(F)-DC-VOC-1		WASH-MH212(G)-DC-VOC-1		Wash-MH186(A)-DC-VOC		Wash-MH186(B)-DC-VOC
							SAMPLING DATE	7/17/2020		7/17/2020		7/17/2020		8/7/2020		8/7/2020
							LAB SAMPLE ID	20G1126-05		20G1126-06		20G1126-07		20H0387-01		20H0387-02
							SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results
	o-Chlorotoluene	95-49-8				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	p-Chlorotoluene	106-43-4				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0028	U	0.0034	U	0.0044	U	0.0033	U	0.0041
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0014	U	0.0017	U	0.0022	U	0.0017	U	0.0021
	Diethyl ether	60-29-7				mg/kg	0.007	U	0.0085	U	0.011	U	0.0083	U	0.01
	Diisopropyl Ether	108-20-3				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0007	U	0.00085	U	0.0011	U	0.00083	U	0.001
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.07	U	0.085	U	0.11	U	0.083	U	0.1

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July and August, 2020

						LOCATION		Wash-MH186(C)-DC-VOC		WASH-MH119A-DC-VOC		WASH-MH119B-DC-VOC		WASH-MH119C-DC-VOC		WASH-MH281A-DC-VOC	
						SAMPLING DATE		8/7/2020		8/18/2020		8/18/2020		8/18/2020		8/18/2020	
						LAB SAMPLE ID		20H0387-03		L2033621-02		L2033621-03		L2033621-04		L2033621-06	
						SAMPLE TYPE		SOIL		SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by EPA 5035																	
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	U	0.011	U	0.0038	U	0.005	U	0.0042	U	0.0041	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	U	0.0046	U	0.0011	U	0.0015	U	0.0012	U	0.0012	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	U	0.0011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg		0.010		0.0038		0.0066		0.003		0.0018	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Trichlorofluoromethane	75-69-4				mg/kg	U	0.011	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	U	0.0011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	U	0.0011	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	-	-	-	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	U	0.0023	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	U	0.0011	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Benzene	71-43-2	2	40	40	mg/kg	U	0.0023	U	0.0007		0.0005	U	0.00045		0.00048	
	Toluene	108-88-3	30	500	500	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Chloromethane	74-87-3				mg/kg	U	0.011	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	U	0.011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	U	0.011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Chloroethane	75-00-3				mg/kg	U	0.011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	U	0.0046	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	U	0.0023	U	0.0011	U	0.0015	U	0.0012	U	0.0012	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	U	0.0023	U	0.00062		0.00078		0.00042	U	0.00041	U
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	U	0.0046	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	U	0.0046	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	U	0.0046	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	U	0.0023	U	0.00077		0.001	U	0.00083	U	0.00083	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	-	-	-	0.00077		0.001	U	0.00083	U	0.00083	U
	Dibromomethane	74-95-3				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Styrene	100-42-5	3	4	70	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Dichlorodifluoromethane	75-71-8				mg/kg	U	0.011	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Acetone	67-64-1	6	50	400	mg/kg	U	0.11	U	0.028		0.025	U	0.026		0.028	
	Carbon disulfide	75-15-0				mg/kg	U	0.0069	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	U	0.046	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	U	0.023	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	2-Hexanone	591-78-6				mg/kg	U	0.023	U	0.0076	U	0.01	U	0.0083	U	0.0083	U
	Bromochloromethane	74-97-5				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Tetrahydrofuran	109-99-9				mg/kg	U	0.011	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	U	0.0011	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,3-Dichloropropane	142-28-9				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	U	0.0023	U	0.00038	U	0.0005	U	0.00042	U	0.00041	U
	Bromobenzene	108-86-1				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July and August, 2020

						LOCATION		Wash-MH186(C)-DC-VOC		WASH-MH119A-DC-VOC		WASH-MH119B-DC-VOC		WASH-MH119C-DC-VOC		WASH-MH281A-DC-VOC	
						SAMPLING DATE		8/7/2020		8/18/2020		8/18/2020		8/18/2020		8/18/2020	
						LAB SAMPLE ID		20H0387-03		L2033621-02		L2033621-03		L2033621-04		L2033621-06	
						SAMPLE TYPE		SOIL		SOIL		SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
	o-Chlorotoluene	95-49-8				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	p-Chlorotoluene	106-43-4				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	U	0.0023	U	0.0023	U	0.003	U	0.0025	U	0.0025	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	U	0.0023	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	Naphthalene	91-20-3	4	20	500	mg/kg	U	0.0046	U	0.003	U	0.004	U	0.0033	U	0.0033	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.00076	U	0.001	U	0.00083	U	0.00083	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	U	0.0023	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Diethyl ether	60-29-7				mg/kg	U	0.011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Diisopropyl Ether	108-20-3				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	U	0.0011	U	0.0015	U	0.002	U	0.0017	U	0.0016	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	U	0.11	U	0.061	U	0.08	U	0.067	U	0.066	U

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July and August, 2020

						LOCATION	WASH-MH281B-DC-VOC		WASH-MH281C-DC-VOC		WASH-MH281D-DC-VOC	
						SAMPLING DATE	8/18/2020		8/18/2020		8/18/2020	
						LAB SAMPLE ID	L2033621-07		L2033621-08		L2033621-09	
						SAMPLE TYPE	SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual
MCP Volatile Organics by EPA 5035												
	Methylene chloride	75-09-2	0.1	4	400	mg/kg	0.0044	U	0.0038	U	0.0041	U
	1,1-Dichloroethane	75-34-3	0.4	9	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Chloroform	67-66-3	0.4	0.2	500	mg/kg	0.0013	U	0.0012	U	0.0012	U
	Carbon tetrachloride	56-23-5	10	5	30	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,2-Dichloropropane	78-87-5	0.1	0.1	30	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Dibromochloromethane	124-48-1	0.005	0.03	20	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,1,2-Trichloroethane	79-00-5	0.1	2	40	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Tetrachloroethene	127-18-4	1	10	30	mg/kg	0.0013		0.0013		0.0014	
	Chlorobenzene	108-90-7	1	3	100	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Trichlorofluoromethane	75-69-4				mg/kg	0.0036	U	0.0031	U	0.0033	U
	1,2-Dichloroethane	107-06-2	0.1	0.1	20	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,1,1-Trichloroethane	71-55-6	30	500	500	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Bromodichloromethane	75-27-4	0.1	0.1	30	mg/kg	0.00044	U	0.00038	U	0.00041	U
	trans-1,3-Dichloropropene	10061-02-6	0.01(2)	0.4(2)	20(2)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	cis-1,3-Dichloropropene	10061-01-5	0.01(2)	0.4(2)	20(2)	mg/kg	0.00044	U	0.00038	U	0.00041	U
	1,3-Dichloropropene, Total	542-75-6	0.01	0.4	20	mg/kg	0.00044	U	0.00038	U	0.00041	U
	1,1-Dichloropropene	563-58-6	0	0	0	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Bromoform	75-25-2	0.1	1	300	mg/kg	0.0036	U	0.0031	U	0.0033	U
	1,1,2,2-Tetrachloroethane	79-34-5	0.005	0.02	10	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Benzene	71-43-2	2	40	40	mg/kg	0.00066		0.00068		0.00054	
	Toluene	108-88-3	30	500	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Ethylbenzene	100-41-4	40	500	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Chloromethane	74-87-3				mg/kg	0.0036	U	0.0031	U	0.0033	U
	Bromomethane	74-83-9	0.5	0.5	30	mg/kg	0.0018	U	0.0015	U	0.0016	U
	Vinyl chloride	75-01-4	0.9	0.7	1	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Chloroethane	75-00-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,1-Dichloroethene	75-35-4	3	40	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	trans-1,2-Dichloroethene	156-60-5	1	1	500	mg/kg	0.0013	U	0.0012	U	0.0012	U
	Trichloroethene	79-01-6	0.3	0.3	30	mg/kg	0.00044	U	0.00038	U	0.00046	
	1,2-Dichlorobenzene	95-50-1	9	100	300	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,3-Dichlorobenzene	541-73-1	3	100	100	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,4-Dichlorobenzene	106-46-7	0.7	1	80	mg/kg	0.0018	U	0.0015	U	0.0016	U
	Methyl tert butyl ether	1634-04-4	0.1	100	100	mg/kg	0.0018	U	0.0015	U	0.0016	U
	p/m-Xylene	179601-23-1	400(3)	100(3)	500(3)	mg/kg	0.0018	U	0.0015	U	0.0016	U
	o-Xylene	95-47-6	400(3)	100(3)	500(3)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Xylenes, Total	1330-20-7	400	100	500	mg/kg	0.00089	U	0.00077	U	0.00083	U
	cis-1,2-Dichloroethene	156-59-2	0.3	0.1	100	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,2-Dichloroethene, Total	540-59-0				mg/kg	0.00089	U	0.00077	U	0.00083	U
	Dibromomethane	74-95-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2,3-Trichloropropane	96-18-4				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Styrene	100-42-5	3	4	70	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Dichlorodifluoromethane	75-71-8				mg/kg	0.0089	U	0.0077	U	0.0083	U
	Acetone	67-64-1	6	50	400	mg/kg	0.037		0.032		0.036	
	Carbon disulfide	75-15-0				mg/kg	0.0089	U	0.0077	U	0.0083	U
	Methyl ethyl ketone	78-93-3	4	50	400	mg/kg	0.0089	U	0.0077	U	0.0083	U
	Methyl isobutyl ketone	108-10-1	0.4	50	400	mg/kg	0.0089	U	0.0077	U	0.0083	U
	2-Hexanone	591-78-6				mg/kg	0.0089	U	0.0077	U	0.0083	U
	Bromochloromethane	74-97-5				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Tetrahydrofuran	109-99-9				mg/kg	0.0036	U	0.0031	U	0.0033	U
	2,2-Dichloropropane	594-20-7	0	0	0	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2-Dibromoethane	106-93-4	0.1	0.1	1	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,3-Dichloropropane	142-28-9				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,1,1,2-Tetrachloroethane	630-20-6	0.1	0.1	80	mg/kg	0.00044	U	0.00038	U	0.00041	U
	Bromobenzene	108-86-1				mg/kg	0.0018	U	0.0015	U	0.0016	U
	n-Butylbenzene	104-51-8	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	sec-Butylbenzene	135-98-8	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	tert-Butylbenzene	98-06-6	100(1)	100(1)	100(1)	mg/kg	0.0018	U	0.0015	U	0.0016	U

Table 1 - Summary of Soil Sample Analytical Results
MBTA Green Line Extension Project
Somerville, Massachusetts
July and August, 2020

						LOCATION	WASH-MH281B-DC-VOC		WASH-MH281C-DC-VOC		WASH-MH281D-DC-VOC	
						SAMPLING DATE	8/18/2020		8/18/2020		8/18/2020	
						LAB SAMPLE ID	L2033621-07		L2033621-08		L2033621-09	
						SAMPLE TYPE	SOIL		SOIL		SOIL	
		CasNum	S-1/GW-1	S-1/GW-2	S-1/GW-3	Units	Results	Qual	Results	Qual	Results	Qual
	o-Chlorotoluene	95-49-8				mg/kg	0.0018	U	0.0015	U	0.0016	U
	p-Chlorotoluene	106-43-4				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2-Dibromo-3-chloropropane	96-12-8				mg/kg	0.0027	U	0.0023	U	0.0025	U
	Hexachlorobutadiene	87-68-3	30	30	30	mg/kg	0.0036	U	0.0031	U	0.0033	U
	Isopropylbenzene	98-82-8	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	p-Isopropyltoluene	99-87-6	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	Naphthalene	91-20-3	4	20	500	mg/kg	0.0036	U	0.0031	U	0.0033	U
	n-Propylbenzene	103-65-1	100(1)	100(1)	100(1)	mg/kg	0.00089	U	0.00077	U	0.00083	U
	1,2,3-Trichlorobenzene	87-61-6				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2,4-Trichlorobenzene	120-82-1	2	6	700	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,3,5-Trimethylbenzene	108-67-8	100(1)	100(1)	100(1)	mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,2,4-Trimethylbenzene	95-63-6	100(1)	100(1)	100(1)	mg/kg	0.0018	U	0.0015	U	0.0016	U
	Diethyl ether	60-29-7				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Diisopropyl Ether	108-20-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Ethyl-Tert-Butyl-Ether	637-92-3				mg/kg	0.0018	U	0.0015	U	0.0016	U
	Tertiary-Amyl Methyl Ether	994-05-8				mg/kg	0.0018	U	0.0015	U	0.0016	U
	1,4-Dioxane	123-91-1	0.2	6	20	mg/kg	0.071	U	0.062	U	0.066	U

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
U - Not detected at the reported detection limit for the sample.
- Not analyzed.
(1) - Value for C9-C10 aromatics used.
(2) -Value for 1,3-Dichloropropene used.
(3) - Criteria applicable to xylene (total), the sum of the xylene isomers.

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July 29, 2020

Ryan Niles
TRC Environmental Corporation - Boston
2 Liberty Square, 6th Floor
Boston, MA 02109

Project Location: Somerville, MA
Client Job Number:
Project Number: 310142.0002 P4 T12
Laboratory Work Order Number: 20G1126

Enclosed are results of analyses for samples received by the laboratory on July 24, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerry K. McGee
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

TRC Environmental Corporation - Boston
2 Liberty Square, 6th Floor
Boston, MA 02109
ATTN: Ryan Niles

REPORT DATE: 7/29/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 310142.0002 P4 T12

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 20G1126

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Somerville, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
WASH-MH212(A)-DC-VOC-1	20G1126-01	Soil		SM 2540G	
				SW-846 8260C-D	
WASH-MH212(B)-DC-VOC-1	20G1126-02	Soil		SM 2540G	
				SW-846 8260C-D	
WASH-MH212(C)-DC-VOC-1	20G1126-03	Soil		SM 2540G	
				SW-846 8260C-D	
WASH-MH212(D)-DC-VOC-1	20G1126-04	Soil		SM 2540G	
				SW-846 8260C-D	
WASH-MH212(E)-DC-VOC-1	20G1126-05	Soil		SM 2540G	
				SW-846 8260C-D	
WASH-MH212(F)-DC-VOC-1	20G1126-06	Soil		SM 2540G	
				SW-846 8260C-D	
WASH-MH212(G)-DC-VOC-1	20G1126-07	Soil		SM 2540G	
				SW-846 8260C-D	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8260C-D

Qualifications:

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane

20G1126-01[WASH-MH212(A)-DC-VOC-1], 20G1126-02[WASH-MH212(B)-DC-VOC-1], 20G1126-03[WASH-MH212(C)-DC-VOC-1], 20G1126-04[WASH-MH212(D)-DC-VOC-1], 20G1126-05[WASH-MH212(E)-DC-VOC-1], 20G1126-06[WASH-MH212(F)-DC-VOC-1], 20G1126-07[WASH-MH212(G)-DC-VOC-1], B262683-BLK1, B262683-BS1, B262683-BSD1, S050690-CCV1

Tetrahydrofuran

20G1126-01[WASH-MH212(A)-DC-VOC-1], 20G1126-02[WASH-MH212(B)-DC-VOC-1], 20G1126-03[WASH-MH212(C)-DC-VOC-1], 20G1126-04[WASH-MH212(D)-DC-VOC-1], 20G1126-05[WASH-MH212(E)-DC-VOC-1], 20G1126-06[WASH-MH212(F)-DC-VOC-1], 20G1126-07[WASH-MH212(G)-DC-VOC-1], B262683-BLK1, B262683-BS1, B262683-BSD1, S050690-CCV1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(A)-DC-VOC-1 | Sampled: 7/17/2020 12:00

Sample ID: 20G1126-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.21	0.082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
tert-Amyl Methyl Ether (TAME)	ND	0.00082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Benzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Bromobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Bromochloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Bromodichloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Bromoform	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Bromomethane	ND	0.0082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
2-Butanone (MEK)	ND	0.033	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
n-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
sec-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
tert-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
tert-Butyl Ethyl Ether (TBEE)	ND	0.00082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Carbon Disulfide	ND	0.0049	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Carbon Tetrachloride	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Chlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Chlorodibromomethane	ND	0.00082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Chloroethane	ND	0.0082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Chloroform	ND	0.0033	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Chloromethane	ND	0.0082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
2-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
4-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,2-Dibromoethane (EDB)	ND	0.00082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Dibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,2-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,3-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,4-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Dichlorodifluoromethane (Freon 12)	ND	0.0082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,1-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,2-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,1-Dichloroethylene	ND	0.0033	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
cis-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
trans-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,3-Dichloropropane	ND	0.00082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
2,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,1-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
cis-1,3-Dichloropropene	ND	0.00082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
trans-1,3-Dichloropropene	ND	0.00082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Diethyl Ether	ND	0.0082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Diisopropyl Ether (DIPE)	ND	0.00082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,4-Dioxane	ND	0.082	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Ethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR

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Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(A)-DC-VOC-1 | Sampled: 7/17/2020 12:00

Sample ID: 20G1126-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
2-Hexanone (MBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Isopropylbenzene (Cumene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
p-Isopropyltoluene (p-Cymene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.0033	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Methylene Chloride	ND	0.0082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Naphthalene	ND	0.0033	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
n-Propylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Styrene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,1,1,2-Tetrachloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,1,2,2-Tetrachloroethane	ND	0.00082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Tetrachloroethylene	0.0048	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Tetrahydrofuran	ND	0.0082	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Toluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,2,3-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,2,4-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,1,1-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,1,2-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Trichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Trichlorofluoromethane (Freon 11)	ND	0.0082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,2,3-Trichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,2,4-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
1,3,5-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
Vinyl Chloride	ND	0.0082	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
m+p Xylene	ND	0.0033	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR
o-Xylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:28	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
1,2-Dichloroethane-d4	113	70-130		7/26/20	9:28
Toluene-d8	103	70-130		7/26/20	9:28
4-Bromofluorobenzene	101	70-130		7/26/20	9:28

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Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(A)-DC-VOC-1 | Sampled: 7/17/2020 12:00

Sample ID: 20G1126-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.1		% Wt	1		SM 2540G	7/29/20	7/29/20 16:34	JDN

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Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(B)-DC-VOC-1 | Sampled: 7/17/2020 12:02

Sample ID: 20G1126-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
tert-Amyl Methyl Ether (TAME)	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Benzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Bromobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Bromochloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Bromodichloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Bromoform	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Bromomethane	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
2-Butanone (MEK)	ND	0.035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
n-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
sec-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
tert-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
tert-Butyl Ethyl Ether (TBEE)	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Carbon Disulfide	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Carbon Tetrachloride	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Chlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Chlorodibromomethane	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Chloroethane	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Chloroform	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Chloromethane	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
2-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
4-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,2-Dibromoethane (EDB)	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Dibromomethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,2-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,3-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,4-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Dichlorodifluoromethane (Freon 12)	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,1-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,2-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,1-Dichloroethylene	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
cis-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
trans-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,3-Dichloropropane	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
2,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,1-Dichloropropene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
cis-1,3-Dichloropropene	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
trans-1,3-Dichloropropene	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Diethyl Ether	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Diisopropyl Ether (DIPE)	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,4-Dioxane	ND	0.088	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Ethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(B)-DC-VOC-1 | Sampled: 7/17/2020 12:02

Sample ID: 20G1126-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
2-Hexanone (MBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Isopropylbenzene (Cumene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
p-Isopropyltoluene (p-Cymene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Methylene Chloride	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Naphthalene	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
n-Propylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Styrene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,1,1,2-Tetrachloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,1,2,2-Tetrachloroethane	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Tetrachloroethylene	0.0036	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Tetrahydrofuran	ND	0.0088	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Toluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,2,3-Trichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,2,4-Trichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,1,1-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,1,2-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Trichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Trichlorofluoromethane (Freon 11)	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,2,3-Trichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,2,4-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
1,3,5-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
Vinyl Chloride	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
m+p Xylene	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR
o-Xylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 9:56	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
1,2-Dichloroethane-d4	114	70-130		7/26/20	9:56
Toluene-d8	102	70-130		7/26/20	9:56
4-Bromofluorobenzene	103	70-130		7/26/20	9:56

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(B)-DC-VOC-1 | Sampled: 7/17/2020 12:02

Sample ID: 20G1126-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.1		% Wt	1		SM 2540G	7/29/20	7/29/20 16:34	JDN

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Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(C)-DC-VOC-1 | Sampled: 7/17/2020 12:04

Sample ID: 20G1126-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.31	0.077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
tert-Amyl Methyl Ether (TAME)	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Bromoform	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Bromomethane	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
2-Butanone (MEK)	ND	0.031	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
tert-Butyl Ethyl Ether (TBEE)	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Carbon Disulfide	ND	0.0046	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Chlorodibromomethane	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Chloroethane	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Chloroform	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Chloromethane	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,2-Dibromoethane (EDB)	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Dichlorodifluoromethane (Freon 12)	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,1-Dichloroethylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,3-Dichloropropane	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
cis-1,3-Dichloropropene	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
trans-1,3-Dichloropropene	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Diethyl Ether	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Diisopropyl Ether (DIPE)	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,4-Dioxane	ND	0.077	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(C)-DC-VOC-1 | Sampled: 7/17/2020 12:04

Sample ID: 20G1126-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Methylene Chloride	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Naphthalene	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,1,2,2-Tetrachloroethane	ND	0.00077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Tetrachloroethylene	0.0046	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Tetrahydrofuran	ND	0.0077	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,2,3-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,2,4-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Trichlorofluoromethane (Freon 11)	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
Vinyl Chloride	ND	0.0077	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
m+p Xylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:23	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	112	70-130		7/26/20 10:23
Toluene-d8	102	70-130		7/26/20 10:23
4-Bromofluorobenzene	102	70-130		7/26/20 10:23

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(C)-DC-VOC-1 | Sampled: 7/17/2020 12:04

Sample ID: 20G1126-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.1		% Wt	1		SM 2540G	7/29/20	7/29/20 16:34	JDN

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(D)-DC-VOC-1 | Sampled: 7/17/2020 12:06

Sample ID: 20G1126-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.20	0.088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
tert-Amyl Methyl Ether (TAME)	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Benzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Bromobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Bromochloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Bromodichloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Bromoform	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Bromomethane	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
2-Butanone (MEK)	ND	0.035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
n-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
sec-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
tert-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
tert-Butyl Ethyl Ether (TBEE)	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Carbon Disulfide	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Carbon Tetrachloride	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Chlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Chlorodibromomethane	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Chloroethane	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Chloroform	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Chloromethane	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
2-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
4-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,2-Dibromoethane (EDB)	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Dibromomethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,2-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,3-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,4-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Dichlorodifluoromethane (Freon 12)	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,1-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,2-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,1-Dichloroethylene	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
cis-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
trans-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,3-Dichloropropane	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
2,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,1-Dichloropropene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
cis-1,3-Dichloropropene	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
trans-1,3-Dichloropropene	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Diethyl Ether	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Diisopropyl Ether (DIPE)	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,4-Dioxane	ND	0.088	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Ethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(D)-DC-VOC-1 | Sampled: 7/17/2020 12:06

Sample ID: 20G1126-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
2-Hexanone (MBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Isopropylbenzene (Cumene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
p-Isopropyltoluene (p-Cymene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Methylene Chloride	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Naphthalene	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
n-Propylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Styrene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,1,1,2-Tetrachloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,1,2,2-Tetrachloroethane	ND	0.00088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Tetrachloroethylene	0.0046	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Tetrahydrofuran	ND	0.0088	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Toluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,2,3-Trichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,2,4-Trichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,1,1-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,1,2-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Trichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Trichlorofluoromethane (Freon 11)	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,2,3-Trichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,2,4-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
1,3,5-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
Vinyl Chloride	ND	0.0088	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
m+p Xylene	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR
o-Xylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 10:51	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	115	70-130		7/26/20 10:51
Toluene-d8	104	70-130		7/26/20 10:51
4-Bromofluorobenzene	98.3	70-130		7/26/20 10:51

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(D)-DC-VOC-1 | Sampled: 7/17/2020 12:06

Sample ID: 20G1126-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.1		% Wt	1		SM 2540G	7/29/20	7/29/20 16:34	JDN

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Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(E)-DC-VOC-1 | Sampled: 7/17/2020 12:08

Sample ID: 20G1126-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.19	0.070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
tert-Amyl Methyl Ether (TAME)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Benzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Bromobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Bromochloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Bromodichloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Bromoform	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Bromomethane	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
2-Butanone (MEK)	ND	0.028	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
n-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
sec-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
tert-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
tert-Butyl Ethyl Ether (TBEE)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Carbon Disulfide	ND	0.0042	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Carbon Tetrachloride	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Chlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Chlorodibromomethane	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Chloroethane	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Chloroform	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Chloromethane	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
2-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
4-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,2-Dibromoethane (EDB)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Dibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,2-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,3-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,4-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Dichlorodifluoromethane (Freon 12)	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,1-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,2-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,1-Dichloroethylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
cis-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
trans-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,3-Dichloropropane	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
2,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,1-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
cis-1,3-Dichloropropene	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
trans-1,3-Dichloropropene	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Diethyl Ether	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Diisopropyl Ether (DIPE)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,4-Dioxane	ND	0.070	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Ethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(E)-DC-VOC-1 | Sampled: 7/17/2020 12:08

Sample ID: 20G1126-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
2-Hexanone (MBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Isopropylbenzene (Cumene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
p-Isopropyltoluene (p-Cymene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Methylene Chloride	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Naphthalene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
n-Propylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Styrene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,1,1,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,1,2,2-Tetrachloroethane	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Tetrachloroethylene	0.0043	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Tetrahydrofuran	ND	0.0070	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Toluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,2,3-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,2,4-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,1,1-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,1,2-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Trichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Trichlorofluoromethane (Freon 11)	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,2,3-Trichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,2,4-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
1,3,5-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
Vinyl Chloride	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
m+p Xylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR
o-Xylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:18	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	113	70-130		7/26/20 11:18
Toluene-d8	102	70-130		7/26/20 11:18
4-Bromofluorobenzene	101	70-130		7/26/20 11:18

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(E)-DC-VOC-1 | Sampled: 7/17/2020 12:08

Sample ID: 20G1126-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.1		% Wt	1		SM 2540G	7/29/20	7/29/20 16:34	JDN

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(F)-DC-VOC-1 | Sampled: 7/17/2020 12:10

Sample ID: 20G1126-06

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
tert-Amyl Methyl Ether (TAME)	ND	0.00085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Benzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Bromobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Bromochloromethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Bromodichloromethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Bromoform	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Bromomethane	ND	0.0085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
2-Butanone (MEK)	ND	0.034	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
n-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
sec-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
tert-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
tert-Butyl Ethyl Ether (TBEE)	ND	0.00085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Carbon Disulfide	ND	0.0051	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Carbon Tetrachloride	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Chlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Chlorodibromomethane	ND	0.00085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Chloroethane	ND	0.0085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Chloroform	ND	0.0034	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Chloromethane	ND	0.0085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
2-Chlorotoluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
4-Chlorotoluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,2-Dibromoethane (EDB)	ND	0.00085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Dibromomethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,2-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,3-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,4-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Dichlorodifluoromethane (Freon 12)	ND	0.0085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,1-Dichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,2-Dichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,1-Dichloroethylene	ND	0.0034	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
cis-1,2-Dichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
trans-1,2-Dichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,2-Dichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,3-Dichloropropane	ND	0.00085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
2,2-Dichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,1-Dichloropropene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
cis-1,3-Dichloropropene	ND	0.00085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
trans-1,3-Dichloropropene	ND	0.00085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Diethyl Ether	ND	0.0085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Diisopropyl Ether (DIPE)	ND	0.00085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,4-Dioxane	ND	0.085	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Ethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(F)-DC-VOC-1 | Sampled: 7/17/2020 12:10

Sample ID: 20G1126-06

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
2-Hexanone (MBK)	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Isopropylbenzene (Cumene)	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
p-Isopropyltoluene (p-Cymene)	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.0034	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Methylene Chloride	ND	0.0085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Naphthalene	ND	0.0034	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
n-Propylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Styrene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,1,1,2-Tetrachloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,1,2,2-Tetrachloroethane	ND	0.00085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Tetrachloroethylene	0.0051	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Tetrahydrofuran	ND	0.0085	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Toluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,2,3-Trichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,2,4-Trichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,1,1-Trichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,1,2-Trichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Trichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Trichlorofluoromethane (Freon 11)	ND	0.0085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,2,3-Trichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,2,4-Trimethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
1,3,5-Trimethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
Vinyl Chloride	ND	0.0085	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
m+p Xylene	ND	0.0034	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR
o-Xylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 11:45	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	113	70-130		7/26/20 11:45
Toluene-d8	102	70-130		7/26/20 11:45
4-Bromofluorobenzene	104	70-130		7/26/20 11:45

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(F)-DC-VOC-1 | Sampled: 7/17/2020 12:10

Sample ID: 20G1126-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.1		% Wt	1		SM 2540G	7/29/20	7/29/20 16:34	JDN

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(G)-DC-VOC-1 | Sampled: 7/17/2020 12:12

Sample ID: 20G1126-07

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.16	0.11	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
tert-Amyl Methyl Ether (TAME)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Benzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Bromobenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Bromochloromethane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Bromodichloromethane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Bromoform	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Bromomethane	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
2-Butanone (MEK)	ND	0.044	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
n-Butylbenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
sec-Butylbenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
tert-Butylbenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
tert-Butyl Ethyl Ether (TBEE)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Carbon Disulfide	ND	0.0066	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Carbon Tetrachloride	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Chlorobenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Chlorodibromomethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Chloroethane	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Chloroform	ND	0.0044	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Chloromethane	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
2-Chlorotoluene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
4-Chlorotoluene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,2-Dibromoethane (EDB)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Dibromomethane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,2-Dichlorobenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,3-Dichlorobenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,4-Dichlorobenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Dichlorodifluoromethane (Freon 12)	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,1-Dichloroethane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,2-Dichloroethane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,1-Dichloroethylene	ND	0.0044	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
cis-1,2-Dichloroethylene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
trans-1,2-Dichloroethylene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,2-Dichloropropane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,3-Dichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
2,2-Dichloropropane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,1-Dichloropropene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
cis-1,3-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
trans-1,3-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Diethyl Ether	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Diisopropyl Ether (DIPE)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,4-Dioxane	ND	0.11	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Ethylbenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(G)-DC-VOC-1 | Sampled: 7/17/2020 12:12

Sample ID: 20G1126-07

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
2-Hexanone (MBK)	ND	0.022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Isopropylbenzene (Cumene)	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
p-Isopropyltoluene (p-Cymene)	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Methyl tert-Butyl Ether (MTBE)	ND	0.0044	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Methylene Chloride	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Naphthalene	ND	0.0044	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
n-Propylbenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Styrene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,1,1,2-Tetrachloroethane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,1,2,2-Tetrachloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Tetrachloroethylene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Tetrahydrofuran	ND	0.011	mg/Kg dry	1	V-16	SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Toluene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,2,3-Trichlorobenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,2,4-Trichlorobenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,1,1-Trichloroethane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,1,2-Trichloroethane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Trichloroethylene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Trichlorofluoromethane (Freon 11)	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,2,3-Trichloropropane	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,2,4-Trimethylbenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
1,3,5-Trimethylbenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
Vinyl Chloride	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
m+p Xylene	ND	0.0044	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR
o-Xylene	ND	0.0022	mg/Kg dry	1		SW-846 8260C-D	7/26/20	7/26/20 12:13	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	113	70-130		7/26/20 12:13
Toluene-d8	102	70-130		7/26/20 12:13
4-Bromofluorobenzene	101	70-130		7/26/20 12:13

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Project Location: Somerville, MA | Sample Description: | Work Order: 20G1126

Date Received: 7/24/2020

Field Sample #: WASH-MH212(G)-DC-VOC-1 | Sampled: 7/17/2020 12:12

Sample ID: 20G1126-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.1		% Wt	1		SM 2540G	7/29/20	7/29/20 16:34	JDN

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Sample Extraction Data

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
20G1126-01 [WASH-MH212(A)-DC-VOC-1]	B262970	07/29/20
20G1126-02 [WASH-MH212(B)-DC-VOC-1]	B262970	07/29/20
20G1126-03 [WASH-MH212(C)-DC-VOC-1]	B262970	07/29/20
20G1126-04 [WASH-MH212(D)-DC-VOC-1]	B262970	07/29/20
20G1126-05 [WASH-MH212(E)-DC-VOC-1]	B262970	07/29/20
20G1126-06 [WASH-MH212(F)-DC-VOC-1]	B262970	07/29/20
20G1126-07 [WASH-MH212(G)-DC-VOC-1]	B262970	07/29/20

Prep Method: SW-846 5035 **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G1126-01 [WASH-MH212(A)-DC-VOC-1]	B262683	6.31	10.0	07/26/20
20G1126-02 [WASH-MH212(B)-DC-VOC-1]	B262683	5.90	10.0	07/26/20
20G1126-03 [WASH-MH212(C)-DC-VOC-1]	B262683	6.73	10.0	07/26/20
20G1126-04 [WASH-MH212(D)-DC-VOC-1]	B262683	5.91	10.0	07/26/20
20G1126-05 [WASH-MH212(E)-DC-VOC-1]	B262683	7.42	10.0	07/26/20
20G1126-06 [WASH-MH212(F)-DC-VOC-1]	B262683	6.15	10.0	07/26/20
20G1126-07 [WASH-MH212(G)-DC-VOC-1]	B262683	4.73	10.0	07/26/20

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B262683 - SW-846 5035										
Blank (B262683-BLK1)				Prepared & Analyzed: 07/26/20						
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B262683 - SW-846 5035										
Blank (B262683-BLK1)				Prepared & Analyzed: 07/26/20						
n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							V-16
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0513*		mg/Kg wet	0.0500		103	70-130			
Surrogate: Toluene-d8	*0.0509*		mg/Kg wet	0.0500		102	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0508*		mg/Kg wet	0.0500		102	70-130			
LCS (B262683-BS1)				Prepared & Analyzed: 07/26/20						
Acetone	0.221	0.10	mg/Kg wet	0.200		110	40-160			†
tert-Amyl Methyl Ether (TAME)	0.0197	0.0010	mg/Kg wet	0.0200		98.5	70-130			
Benzene	0.0179	0.0020	mg/Kg wet	0.0200		89.3	70-130			
Bromobenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.7	70-130			
Bromochloromethane	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130			
Bromodichloromethane	0.0188	0.0020	mg/Kg wet	0.0200		94.0	70-130			
Bromoform	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130			
Bromomethane	0.0184	0.010	mg/Kg wet	0.0200		91.9	40-160			†
2-Butanone (MEK)	0.225	0.040	mg/Kg wet	0.200		112	40-160			†
n-Butylbenzene	0.0164	0.0020	mg/Kg wet	0.0200		82.0	70-130			
sec-Butylbenzene	0.0189	0.0020	mg/Kg wet	0.0200		94.4	70-130			
tert-Butylbenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.6	70-130			
tert-Butyl Ethyl Ether (TBEE)	0.0197	0.0010	mg/Kg wet	0.0200		98.6	70-130			
Carbon Disulfide	0.164	0.0060	mg/Kg wet	0.200		81.8	70-130			
Carbon Tetrachloride	0.0182	0.0020	mg/Kg wet	0.0200		90.8	70-130			
Chlorobenzene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130			
Chlorodibromomethane	0.0217	0.0010	mg/Kg wet	0.0200		109	70-130			
Chloroethane	0.0190	0.010	mg/Kg wet	0.0200		95.0	70-130			
Chloroform	0.0179	0.0040	mg/Kg wet	0.0200		89.3	70-130			
Chloromethane	0.0205	0.010	mg/Kg wet	0.0200		102	40-160			†
2-Chlorotoluene	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130			
4-Chlorotoluene	0.0183	0.0020	mg/Kg wet	0.0200		91.3	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0191	0.0020	mg/Kg wet	0.0200		95.5	70-130			
1,2-Dibromoethane (EDB)	0.0224	0.0010	mg/Kg wet	0.0200		112	70-130			
Dibromomethane	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130			
1,2-Dichlorobenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130			
1,3-Dichlorobenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
1,4-Dichlorobenzene	0.0196	0.0020	mg/Kg wet	0.0200		98.2	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B262683 - SW-846 5035											
LCS (B262683-BS1)				Prepared & Analyzed: 07/26/20							
Dichlorodifluoromethane (Freon 12)	0.0194	0.010	mg/Kg wet	0.0200		97.0	40-160				†
1,1-Dichloroethane	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130				
1,2-Dichloroethane	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130				
1,1-Dichloroethylene	0.0169	0.0040	mg/Kg wet	0.0200		84.4	70-130				
cis-1,2-Dichloroethylene	0.0183	0.0020	mg/Kg wet	0.0200		91.7	70-130				
trans-1,2-Dichloroethylene	0.0187	0.0020	mg/Kg wet	0.0200		93.4	70-130				
1,2-Dichloropropane	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130				
1,3-Dichloropropane	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130				
2,2-Dichloropropane	0.0163	0.0020	mg/Kg wet	0.0200		81.3	70-130				
1,1-Dichloropropene	0.0167	0.0020	mg/Kg wet	0.0200		83.7	70-130				
cis-1,3-Dichloropropene	0.0199	0.0010	mg/Kg wet	0.0200		99.6	70-130				
trans-1,3-Dichloropropene	0.0201	0.0010	mg/Kg wet	0.0200		100	70-130				
Diethyl Ether	0.0175	0.010	mg/Kg wet	0.0200		87.4	70-130				
Diisopropyl Ether (DIPE)	0.0202	0.0010	mg/Kg wet	0.0200		101	70-130				
1,4-Dioxane	0.211	0.10	mg/Kg wet	0.200		106	40-160			V-16	†
Ethylbenzene	0.0175	0.0020	mg/Kg wet	0.0200		87.5	70-130				
Hexachlorobutadiene	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130				
2-Hexanone (MBK)	0.221	0.020	mg/Kg wet	0.200		110	40-160				†
Isopropylbenzene (Cumene)	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130				
p-Isopropyltoluene (p-Cymene)	0.0180	0.0020	mg/Kg wet	0.0200		90.2	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0196	0.0040	mg/Kg wet	0.0200		97.8	70-130				
Methylene Chloride	0.0207	0.010	mg/Kg wet	0.0200		104	70-130				
4-Methyl-2-pentanone (MIBK)	0.220	0.020	mg/Kg wet	0.200		110	40-160				†
Naphthalene	0.0156	0.0040	mg/Kg wet	0.0200		78.0	70-130				
n-Propylbenzene	0.0178	0.0020	mg/Kg wet	0.0200		89.0	70-130				
Styrene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
1,1,1,2-Tetrachloroethane	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130				
1,1,2,2-Tetrachloroethane	0.0207	0.0010	mg/Kg wet	0.0200		104	70-130				
Tetrachloroethylene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
Tetrahydrofuran	0.0199	0.010	mg/Kg wet	0.0200		99.4	70-130			V-16	
Toluene	0.0184	0.0020	mg/Kg wet	0.0200		92.1	70-130				
1,2,3-Trichlorobenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.6	70-130				
1,2,4-Trichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		96.9	70-130				
1,1,1-Trichloroethane	0.0168	0.0020	mg/Kg wet	0.0200		83.9	70-130				
1,1,2-Trichloroethane	0.0193	0.0020	mg/Kg wet	0.0200		96.6	70-130				
Trichloroethylene	0.0187	0.0020	mg/Kg wet	0.0200		93.7	70-130				
Trichlorofluoromethane (Freon 11)	0.0180	0.010	mg/Kg wet	0.0200		90.2	70-130				
1,2,3-Trichloropropane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
1,2,4-Trimethylbenzene	0.0173	0.0020	mg/Kg wet	0.0200		86.7	70-130				
1,3,5-Trimethylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		92.1	70-130				
Vinyl Chloride	0.0181	0.010	mg/Kg wet	0.0200		90.3	70-130				
m+p Xylene	0.0370	0.0040	mg/Kg wet	0.0400		92.5	70-130				
o-Xylene	0.0183	0.0020	mg/Kg wet	0.0200		91.4	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0491*		mg/Kg wet	0.0500		98.2	70-130				
Surrogate: Toluene-d8	*0.0519*		mg/Kg wet	0.0500		104	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0504*		mg/Kg wet	0.0500		101	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B262683 - SW-846 5035											
LCS Dup (B262683-BSD1)				Prepared & Analyzed: 07/26/20							
Acetone	0.239	0.10	mg/Kg wet	0.200		120	40-160	7.96	20		†
tert-Amyl Methyl Ether (TAME)	0.0202	0.0010	mg/Kg wet	0.0200		101	70-130	2.41	20		
Benzene	0.0182	0.0020	mg/Kg wet	0.0200		91.0	70-130	1.89	20		
Bromobenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	5.29	20		
Bromochloromethane	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	4.21	20		
Bromodichloromethane	0.0191	0.0020	mg/Kg wet	0.0200		95.5	70-130	1.58	20		
Bromoform	0.0237	0.0020	mg/Kg wet	0.0200		118	70-130	6.99	20		
Bromomethane	0.0190	0.010	mg/Kg wet	0.0200		94.8	40-160	3.11	20		†
2-Butanone (MEK)	0.232	0.040	mg/Kg wet	0.200		116	40-160	3.18	20		†
n-Butylbenzene	0.0161	0.0020	mg/Kg wet	0.0200		80.5	70-130	1.85	20		
sec-Butylbenzene	0.0188	0.0020	mg/Kg wet	0.0200		93.8	70-130	0.638	20		
tert-Butylbenzene	0.0188	0.0020	mg/Kg wet	0.0200		94.1	70-130	2.69	20		
tert-Butyl Ethyl Ether (TBEE)	0.0204	0.0010	mg/Kg wet	0.0200		102	70-130	3.59	20		
Carbon Disulfide	0.166	0.0060	mg/Kg wet	0.200		82.8	70-130	1.13	20		
Carbon Tetrachloride	0.0191	0.0020	mg/Kg wet	0.0200		95.5	70-130	5.05	20		
Chlorobenzene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130	3.52	20		
Chlorodibromomethane	0.0226	0.0010	mg/Kg wet	0.0200		113	70-130	3.70	20		
Chloroethane	0.0201	0.010	mg/Kg wet	0.0200		101	70-130	5.73	20		
Chloroform	0.0181	0.0040	mg/Kg wet	0.0200		90.3	70-130	1.11	20		
Chloromethane	0.0204	0.010	mg/Kg wet	0.0200		102	40-160	0.685	20		†
2-Chlorotoluene	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-130	1.26	20		
4-Chlorotoluene	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130	3.44	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	0.418	20		
1,2-Dibromoethane (EDB)	0.0235	0.0010	mg/Kg wet	0.0200		118	70-130	4.61	20		
Dibromomethane	0.0227	0.0020	mg/Kg wet	0.0200		113	70-130	1.24	20		
1,2-Dichlorobenzene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130	1.87	20		
1,3-Dichlorobenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.6	70-130	1.30	20		
1,4-Dichlorobenzene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130	2.16	20		
Dichlorodifluoromethane (Freon 12)	0.0199	0.010	mg/Kg wet	0.0200		99.4	40-160	2.44	20		†
1,1-Dichloroethane	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130	2.03	20		
1,2-Dichloroethane	0.0225	0.0020	mg/Kg wet	0.0200		112	70-130	4.00	20		
1,1-Dichloroethylene	0.0170	0.0040	mg/Kg wet	0.0200		85.1	70-130	0.826	20		
cis-1,2-Dichloroethylene	0.0189	0.0020	mg/Kg wet	0.0200		94.3	70-130	2.80	20		
trans-1,2-Dichloroethylene	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130	1.17	20		
1,2-Dichloropropane	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130	0.679	20		
1,3-Dichloropropane	0.0219	0.0010	mg/Kg wet	0.0200		109	70-130	5.07	20		
2,2-Dichloropropane	0.0165	0.0020	mg/Kg wet	0.0200		82.7	70-130	1.71	20		
1,1-Dichloropropene	0.0167	0.0020	mg/Kg wet	0.0200		83.7	70-130	0.00	20		
cis-1,3-Dichloropropene	0.0203	0.0010	mg/Kg wet	0.0200		102	70-130	1.99	20		
trans-1,3-Dichloropropene	0.0209	0.0010	mg/Kg wet	0.0200		104	70-130	3.91	20		
Diethyl Ether	0.0196	0.010	mg/Kg wet	0.0200		98.1	70-130	11.5	20		
Diisopropyl Ether (DIPE)	0.0209	0.0010	mg/Kg wet	0.0200		104	70-130	3.31	20		
1,4-Dioxane	0.218	0.10	mg/Kg wet	0.200		109	40-160	3.37	20	V-16	†
Ethylbenzene	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130	4.03	20		
Hexachlorobutadiene	0.0195	0.0020	mg/Kg wet	0.0200		97.6	70-130	13.7	20		
2-Hexanone (MBK)	0.224	0.020	mg/Kg wet	0.200		112	40-160	1.28	20		†
Isopropylbenzene (Cumene)	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	3.78	20		
p-Isopropyltoluene (p-Cymene)	0.0181	0.0020	mg/Kg wet	0.0200		90.6	70-130	0.442	20		
Methyl tert-Butyl Ether (MTBE)	0.0200	0.0040	mg/Kg wet	0.0200		99.9	70-130	2.12	20		
Methylene Chloride	0.0214	0.010	mg/Kg wet	0.0200		107	70-130	3.23	20		
4-Methyl-2-pentanone (MIBK)	0.224	0.020	mg/Kg wet	0.200		112	40-160	1.64	20		†
Naphthalene	0.0159	0.0040	mg/Kg wet	0.0200		79.4	70-130	1.78	20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B262683 - SW-846 5035										
LCS Dup (B262683-BSD1)				Prepared & Analyzed: 07/26/20						
n-Propylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		91.9	70-130	3.21	20	
Styrene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	0.0980	20	
1,1,1,2-Tetrachloroethane	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	7.90	20	
1,1,2,2-Tetrachloroethane	0.0209	0.0010	mg/Kg wet	0.0200		105	70-130	1.06	20	
Tetrachloroethylene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130	0.489	20	
Tetrahydrofuran	0.0201	0.010	mg/Kg wet	0.0200		101	70-130	1.30	20	V-16
Toluene	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130	2.57	20	
1,2,3-Trichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		96.8	70-130	3.36	20	
1,2,4-Trichlorobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-130	1.98	20	
1,1,1-Trichloroethane	0.0174	0.0020	mg/Kg wet	0.0200		86.9	70-130	3.51	20	
1,1,2-Trichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	4.55	20	
Trichloroethylene	0.0187	0.0020	mg/Kg wet	0.0200		93.3	70-130	0.428	20	
Trichlorofluoromethane (Freon 11)	0.0182	0.010	mg/Kg wet	0.0200		90.9	70-130	0.773	20	
1,2,3-Trichloropropane	0.0231	0.0020	mg/Kg wet	0.0200		115	70-130	10.2	20	
1,2,4-Trimethylbenzene	0.0170	0.0020	mg/Kg wet	0.0200		84.9	70-130	2.10	20	
1,3,5-Trimethylbenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.5	70-130	3.62	20	
Vinyl Chloride	0.0178	0.010	mg/Kg wet	0.0200		89.0	70-130	1.45	20	
m+p Xylene	0.0378	0.0040	mg/Kg wet	0.0400		94.6	70-130	2.19	20	
o-Xylene	0.0193	0.0020	mg/Kg wet	0.0200		96.4	70-130	5.32	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0501*		mg/Kg wet	0.0500		100	70-130			
Surrogate: Toluene-d8	*0.0518*		mg/Kg wet	0.0500		104	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0510*		mg/Kg wet	0.0500		102	70-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
1,2-Dibromoethane (EDB)	NY
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
1,4-Dioxane	NY
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NH,NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NY
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021

20C-1120

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 07/17/20 | ALPHA Job #: L2030531

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: TRC Companies.
Address: 2 Liberty Sq.
Boston MA
Phone:
Email: rniles@trccompanies.com

Project Information

Project Name: Washington St. Stockpile
Project Location: Somerville MA
Project #: 310142.0002 P4 T12
Project Manager: Ryan Niles
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☑ Same as Client info PO #: 155483

Regulatory Requirements & Project Information Requirements

☑ Yes ☐ No MA MCP Analytical Methods
☐ Yes ☑ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed Program

☐ Yes ☑ No CT RCP Analytical Methods
RCS-1; <0.10 mg/kg PCBs and MCP Criteria <5 mg/kg selenium

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: ~~3 day~~ ASAP

Additional Project Information:

Additional email - kmorin@trccompanies.com
MCP PROJECT + RCS-1 DETECTION LIMITS Required; call if unable to meet
- Run VOCs for Low Level first
- RUN TCLP for any analyte that fails 20x Rule

ANALYSIS

VOC: ☒ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Sample Comments

TOTAL # BOTTLES

	ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC
01	30531-01	WASH-MH212(A)-DC-VOC-1	7/17/20	1200	SOIL ~~APE~~	APC	X
02	-02	WASH-MH212(B)-DC-VOC-1		1202			X
03	-03	WASH-MH212(C)-DC-VOC-1		1204			X
04	-04	WASH-MH212(D)-DC-VOC-1		1206			X
05	-05	WASH-MH212(E)-DC-VOC-1		1208			X
06	-06	WASH-MH212(F)-DC-VOC-1		1210			X
07	-07	WASH-MH212(G)-DC-VOC-1		1212			X
	~~-08~~	~~WASH-MH186(A)-DC-VOC-1~~		~~1340~~			~~X~~
	~~-09~~	~~WASH-MH186(B)-DC-VOC-1~~		~~1342~~			~~X~~
	~~-10~~	~~WASH-MH186(C)-DC-VOC-1~~		~~1344~~			~~X~~

Container Type
Preservative

Container Type: P = Plastic, A = Amber glass, V = Vial, G = Glass, B = Bacteria cup, C = Cube, O = Other, E = Encore, D = BOD Bottle

Preservative: A= None, B= HCl, C= HNO_3, D= H_2SO_4, E= NaOH, F= MeOH, G= $NaHSO_4$, H = $Na_2S_2O_3$, I= Ascorbic Acid, J = NH_4Cl, K= Zn Acetate, O= Other

RYT 5° 7/24/20 1115

Relinquished By:	Date/Time	Received By:	Date/Time
Jessica Dutty	7/17/20 1505	TRC via AAL	7/17/20 1505
AAL via TRC	7/17/20 1722		7/17/20 1722
TRC via AAL 7/24/20 0934	7/24/20 09:34	TRC via AAL 7-24-20 0934	

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

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I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

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Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client TRC

Received By BLF Date 7/24/20 Time 1115

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____
Direct from Sampling _____ Ambient _____ Melted Ice _____

By Gun # 4 Actual Temp - 5°C

Were samples within Temperature? 2-6°C T By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T
Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? T Who was notified? Cathy

Are there Short Holds? F Who was notified? _____

Is there enough Volume? T

Is there Headspace where applicable? NA MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? Acid NA Base NA

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-	7	250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-	14	Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

no percent solids received

#percent solids received 7/28. BLF

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 20G1126
Project Location: Somerville, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

20G1126-01 thru 20G1126-07

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP VPH CAM IV C ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	MassDEP EPH CAM IV B ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Technical Representative

Printed Name: Lisa A. Worthington Date: 07/29/20

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August 14, 2020

Ryan Niles
TRC Environmental Corporation - Boston
2 Liberty Square, 6th Floor
Boston, MA 02109

Project Location: Somerville, MA
Client Job Number:
Project Number: 310142.0002 P4 T14
Laboratory Work Order Number: 20H0387

Enclosed are results of analyses for samples received by the laboratory on August 7, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerry K. McGee
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

TRC Environmental Corporation - Boston
2 Liberty Square, 6th Floor
Boston, MA 02109
ATTN: Ryan Niles

REPORT DATE: 8/14/2020

PURCHASE ORDER NUMBER: 155483

PROJECT NUMBER: 310142.0002 P4 T14

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 20H0387

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Somerville, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Wash-MH186(A)-DC-VOC	20H0387-01	Soil		SM 2540G	
				SW-846 8260C-D	
Wash-MH186(B)-DC-VOC	20H0387-02	Soil		SM 2540G	
				SW-846 8260C-D	
Wash-MH186(C)-DC-VOC	20H0387-03	Soil		SM 2540G	
				SW-846 8260C-D	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8260C-D

Qualifications:

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

Naphthalene
20H0387-01[Wash-MH186(A)-DC-VOC], 20H0387-02[Wash-MH186(B)-DC-VOC], 20H0387-03[Wash-MH186(C)-DC-VOC], B264068-BLK1, B264068-BS1, B264068-BSD1, S051213-CCV1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
S051213-CCV1

Tetrahydrofuran
S051213-CCV1

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

2-Butanone (MEK)
B264068-BS1, B264068-BSD1, S051213-CCV1

Acetone
B264068-BS1, B264068-BSD1, S051213-CCV1

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Bromomethane
20H0387-01[Wash-MH186(A)-DC-VOC], 20H0387-02[Wash-MH186(B)-DC-VOC], 20H0387-03[Wash-MH186(C)-DC-VOC], B264068-BLK1, B264068-BS1, B264068-BSD1, S051213-CCV1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Director of Operations

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20H0387

Date Received: 8/7/2020

Field Sample #: Wash-MH186(A)-DC-VOC | Sampled: 8/7/2020 08:45

Sample ID: 20H0387-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Benzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Bromobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Bromochloromethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Bromodichloromethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Bromoform	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Bromomethane	ND	0.0083	mg/Kg dry	1	V-34	SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
2-Butanone (MEK)	ND	0.033	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
n-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
sec-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
tert-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Carbon Disulfide	ND	0.0050	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Carbon Tetrachloride	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Chlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Chlorodibromomethane	ND	0.00083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Chloroethane	ND	0.0083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Chloroform	ND	0.0033	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Chloromethane	ND	0.0083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
2-Chlorotoluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
4-Chlorotoluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,2-Dibromoethane (EDB)	ND	0.00083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Dibromomethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,2-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,3-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,4-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,1-Dichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,2-Dichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,1-Dichloroethylene	ND	0.0033	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
cis-1,2-Dichloroethylene	0.0044	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
trans-1,2-Dichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,2-Dichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,3-Dichloropropane	ND	0.00083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
2,2-Dichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,1-Dichloropropene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
cis-1,3-Dichloropropene	ND	0.00083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
trans-1,3-Dichloropropene	ND	0.00083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Diethyl Ether	ND	0.0083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Diisopropyl Ether (DIPE)	ND	0.00083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,4-Dioxane	ND	0.083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Ethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20H0387

Date Received: 8/7/2020

Field Sample #: Wash-MH186(A)-DC-VOC | Sampled: 8/7/2020 08:45

Sample ID: 20H0387-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
2-Hexanone (MBK)	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Isopropylbenzene (Cumene)	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0033	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Methylene Chloride	ND	0.0083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Naphthalene	ND	0.0033	mg/Kg dry	1	V-05	SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
n-Propylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Styrene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,1,1,2-Tetrachloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,1,2,2-Tetrachloroethane	ND	0.00083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Tetrachloroethylene	0.0094	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Tetrahydrofuran	ND	0.0083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Toluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,2,3-Trichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,2,4-Trichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,1,1-Trichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,1,2-Trichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Trichloroethylene	0.0021	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,2,3-Trichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,2,4-Trimethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
1,3,5-Trimethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
Vinyl Chloride	ND	0.0083	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
m+p Xylene	ND	0.0033	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF
o-Xylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 10:52	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	106	70-130		8/11/20 10:52
Toluene-d8	103	70-130		8/11/20 10:52
4-Bromofluorobenzene	98.7	70-130		8/11/20 10:52

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Project Location: Somerville, MA | Sample Description: | Work Order: 20H0387

Date Received: 8/7/2020

Field Sample #: Wash-MH186(A)-DC-VOC | Sampled: 8/7/2020 08:45

Sample ID: 20H0387-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.7		% Wt	1		SM 2540G	8/12/20	8/13/20 8:13	JDN

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20H0387

Date Received: 8/7/2020

Field Sample #: Wash-MH186(B)-DC-VOC | Sampled: 8/7/2020 09:10

Sample ID: 20H0387-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Benzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Bromobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Bromochloromethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Bromodichloromethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Bromoform	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Bromomethane	ND	0.010	mg/Kg dry	1	V-34	SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
2-Butanone (MEK)	ND	0.041	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
n-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
sec-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
tert-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Carbon Disulfide	ND	0.0062	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Carbon Tetrachloride	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Chlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Chlorodibromomethane	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Chloroethane	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Chloroform	ND	0.0041	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Chloromethane	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
2-Chlorotoluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
4-Chlorotoluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Dibromomethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,2-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,3-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,4-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,1-Dichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,2-Dichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,1-Dichloroethylene	ND	0.0041	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
cis-1,2-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
trans-1,2-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,2-Dichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,3-Dichloropropane	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
2,2-Dichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,1-Dichloropropene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Diethyl Ether	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,4-Dioxane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Ethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20H0387

Date Received: 8/7/2020

Field Sample #: Wash-MH186(B)-DC-VOC | Sampled: 8/7/2020 09:10

Sample ID: 20H0387-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
2-Hexanone (MBK)	ND	0.021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Isopropylbenzene (Cumene)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0041	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Methylene Chloride	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Naphthalene	ND	0.0041	mg/Kg dry	1	V-05	SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
n-Propylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Styrene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,1,1,2-Tetrachloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Tetrachloroethylene	0.0087	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Tetrahydrofuran	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Toluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,2,3-Trichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,2,4-Trichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,1,1-Trichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,1,2-Trichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Trichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,2,3-Trichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,2,4-Trimethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
1,3,5-Trimethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
Vinyl Chloride	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
m+p Xylene	ND	0.0041	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF
o-Xylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:19	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	108	70-130		8/11/20 11:19
Toluene-d8	102	70-130		8/11/20 11:19
4-Bromofluorobenzene	96.2	70-130		8/11/20 11:19

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Somerville, MA | Sample Description: | Work Order: 20H0387

Date Received: 8/7/2020

Field Sample #: Wash-MH186(B)-DC-VOC | Sampled: 8/7/2020 09:10

Sample ID: 20H0387-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	82.9		% Wt	1		SM 2540G	8/12/20	8/13/20 8:14	JDN

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Project Location: Somerville, MA | Sample Description: | Work Order: 20H0387

Date Received: 8/7/2020

Field Sample #: Wash-MH186(C)-DC-VOC | Sampled: 8/7/2020 09:30

Sample ID: 20H0387-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Benzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Bromobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Bromochloromethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Bromodichloromethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Bromoform	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Bromomethane	ND	0.011	mg/Kg dry	1	V-34	SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
2-Butanone (MEK)	ND	0.046	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
n-Butylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
sec-Butylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
tert-Butylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Carbon Disulfide	ND	0.0069	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Carbon Tetrachloride	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Chlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Chlorodibromomethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Chloroethane	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Chloroform	ND	0.0046	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Chloromethane	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
2-Chlorotoluene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
4-Chlorotoluene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,2-Dibromoethane (EDB)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Dibromomethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,2-Dichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,3-Dichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,4-Dichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,1-Dichloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,2-Dichloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,1-Dichloroethylene	ND	0.0046	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
cis-1,2-Dichloroethylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
trans-1,2-Dichloroethylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,2-Dichloropropane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,3-Dichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
2,2-Dichloropropane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,1-Dichloropropene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
cis-1,3-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
trans-1,3-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Diethyl Ether	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Diisopropyl Ether (DIPE)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,4-Dioxane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Ethylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF

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Project Location: Somerville, MA | Sample Description: | Work Order: 20H0387

Date Received: 8/7/2020

Field Sample #: Wash-MH186(C)-DC-VOC | Sampled: 8/7/2020 09:30

Sample ID: 20H0387-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
2-Hexanone (MBK)	ND	0.023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Isopropylbenzene (Cumene)	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0046	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Methylene Chloride	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Naphthalene	ND	0.0046	mg/Kg dry	1	V-05	SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
n-Propylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Styrene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,1,1,2-Tetrachloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,1,2,2-Tetrachloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Tetrachloroethylene	0.010	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Tetrahydrofuran	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Toluene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,2,3-Trichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,2,4-Trichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,1,1-Trichloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,1,2-Trichloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Trichloroethylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Trichlorofluoromethane (Freon 11)	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,2,3-Trichloropropane	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,2,4-Trimethylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
1,3,5-Trimethylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
Vinyl Chloride	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
m+p Xylene	ND	0.0046	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF
o-Xylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	8/11/20	8/11/20 11:47	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	109	70-130		8/11/20 11:47
Toluene-d8	102	70-130		8/11/20 11:47
4-Bromofluorobenzene	97.0	70-130		8/11/20 11:47

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Project Location: Somerville, MA | Sample Description: | Work Order: 20H0387

Date Received: 8/7/2020

Field Sample #: Wash-MH186(C)-DC-VOC | Sampled: 8/7/2020 09:30

Sample ID: 20H0387-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.7		% Wt	1		SM 2540G	8/12/20	8/13/20 8:14	JDN

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Sample Extraction Data

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
20H0387-01 [Wash-MH186(A)-DC-VOC]	B264161	08/12/20
20H0387-02 [Wash-MH186(B)-DC-VOC]	B264161	08/12/20
20H0387-03 [Wash-MH186(C)-DC-VOC]	B264161	08/12/20

Prep Method: SW-846 5035 **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20H0387-01 [Wash-MH186(A)-DC-VOC]	B264068	6.67	10.0	08/11/20
20H0387-02 [Wash-MH186(B)-DC-VOC]	B264068	5.85	10.0	08/11/20
20H0387-03 [Wash-MH186(C)-DC-VOC]	B264068	5.04	10.0	08/11/20

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B264068 - SW-846 5035										
Blank (B264068-BLK1)				Prepared & Analyzed: 08/11/20						
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-34
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							V-05

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B264068 - SW-846 5035											
Blank (B264068-BLK1)				Prepared & Analyzed: 08/11/20							
n-Propylbenzene	ND	0.0020	mg/Kg wet								
Styrene	ND	0.0020	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet								
Tetrachloroethylene	ND	0.0020	mg/Kg wet								
Tetrahydrofuran	ND	0.010	mg/Kg wet								
Toluene	ND	0.0020	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet								
Trichloroethylene	ND	0.0020	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet								
Vinyl Chloride	ND	0.010	mg/Kg wet								
m+p Xylene	ND	0.0040	mg/Kg wet								
o-Xylene	ND	0.0020	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0553*		mg/Kg wet	0.0500		111	70-130				
Surrogate: Toluene-d8	*0.0517*		mg/Kg wet	0.0500		103	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0494*		mg/Kg wet	0.0500		98.9	70-130				
LCS (B264068-BS1)				Prepared & Analyzed: 08/11/20							
Acetone	0.260	0.10	mg/Kg wet	0.200		130	40-160			V-20	†
tert-Amyl Methyl Ether (TAME)	0.0203	0.0010	mg/Kg wet	0.0200		101	70-130				
Benzene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130				
Bromobenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.7	70-130				
Bromochloromethane	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130				
Bromodichloromethane	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130				
Bromoform	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130				
Bromomethane	0.0180	0.010	mg/Kg wet	0.0200		90.1	40-160			V-34	†
2-Butanone (MEK)	0.251	0.040	mg/Kg wet	0.200		126	40-160			V-20	†
n-Butylbenzene	0.0177	0.0020	mg/Kg wet	0.0200		88.6	70-130				
sec-Butylbenzene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130				
tert-Butylbenzene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0211	0.0010	mg/Kg wet	0.0200		106	70-130				
Carbon Disulfide	0.170	0.0060	mg/Kg wet	0.200		85.2	70-130				
Carbon Tetrachloride	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130				
Chlorobenzene	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130				
Chlorodibromomethane	0.0209	0.0010	mg/Kg wet	0.0200		104	70-130				
Chloroethane	0.0204	0.010	mg/Kg wet	0.0200		102	70-130				
Chloroform	0.0190	0.0040	mg/Kg wet	0.0200		95.2	70-130				
Chloromethane	0.0203	0.010	mg/Kg wet	0.0200		101	40-160				†
2-Chlorotoluene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
4-Chlorotoluene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130				
1,2-Dibromoethane (EDB)	0.0198	0.0010	mg/Kg wet	0.0200		98.8	70-130				
Dibromomethane	0.0199	0.0020	mg/Kg wet	0.0200		99.7	70-130				
1,2-Dichlorobenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
1,3-Dichlorobenzene	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130				
1,4-Dichlorobenzene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B264068 - SW-846 5035											
LCS (B264068-BS1)				Prepared & Analyzed: 08/11/20							
Dichlorodifluoromethane (Freon 12)	0.0165	0.010	mg/Kg wet	0.0200		82.6	40-160				†
1,1-Dichloroethane	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130				
1,2-Dichloroethane	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130				
1,1-Dichloroethylene	0.0191	0.0040	mg/Kg wet	0.0200		95.7	70-130				
cis-1,2-Dichloroethylene	0.0196	0.0020	mg/Kg wet	0.0200		98.1	70-130				
trans-1,2-Dichloroethylene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
1,2-Dichloropropane	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130				
1,3-Dichloropropane	0.0202	0.0010	mg/Kg wet	0.0200		101	70-130				
2,2-Dichloropropane	0.0173	0.0020	mg/Kg wet	0.0200		86.6	70-130				
1,1-Dichloropropene	0.0190	0.0020	mg/Kg wet	0.0200		94.9	70-130				
cis-1,3-Dichloropropene	0.0196	0.0010	mg/Kg wet	0.0200		97.9	70-130				
trans-1,3-Dichloropropene	0.0193	0.0010	mg/Kg wet	0.0200		96.6	70-130				
Diethyl Ether	0.0180	0.010	mg/Kg wet	0.0200		90.0	70-130				
Diisopropyl Ether (DIPE)	0.0230	0.0010	mg/Kg wet	0.0200		115	70-130				
1,4-Dioxane	0.192	0.10	mg/Kg wet	0.200		96.2	40-160				†
Ethylbenzene	0.0190	0.0020	mg/Kg wet	0.0200		94.8	70-130				
Hexachlorobutadiene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130				
2-Hexanone (MBK)	0.221	0.020	mg/Kg wet	0.200		110	40-160				†
Isopropylbenzene (Cumene)	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
p-Isopropyltoluene (p-Cymene)	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0191	0.0040	mg/Kg wet	0.0200		95.4	70-130				
Methylene Chloride	0.0232	0.010	mg/Kg wet	0.0200		116	70-130				
4-Methyl-2-pentanone (MIBK)	0.222	0.020	mg/Kg wet	0.200		111	40-160				†
Naphthalene	0.0151	0.0040	mg/Kg wet	0.0200		75.4	70-130			V-05	
n-Propylbenzene	0.0186	0.0020	mg/Kg wet	0.0200		93.0	70-130				
Styrene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
1,1,1,2-Tetrachloroethane	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130				
1,1,2,2-Tetrachloroethane	0.0207	0.0010	mg/Kg wet	0.0200		104	70-130				
Tetrachloroethylene	0.0188	0.0020	mg/Kg wet	0.0200		93.9	70-130				
Tetrahydrofuran	0.0228	0.010	mg/Kg wet	0.0200		114	70-130				
Toluene	0.0184	0.0020	mg/Kg wet	0.0200		91.9	70-130				
1,2,3-Trichlorobenzene	0.0175	0.0020	mg/Kg wet	0.0200		87.4	70-130				
1,2,4-Trichlorobenzene	0.0164	0.0020	mg/Kg wet	0.0200		82.0	70-130				
1,1,1-Trichloroethane	0.0180	0.0020	mg/Kg wet	0.0200		90.1	70-130				
1,1,2-Trichloroethane	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130				
Trichloroethylene	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130				
Trichlorofluoromethane (Freon 11)	0.0196	0.010	mg/Kg wet	0.0200		97.9	70-130				
1,2,3-Trichloropropane	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130				
1,2,4-Trimethylbenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130				
1,3,5-Trimethylbenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130				
Vinyl Chloride	0.0187	0.010	mg/Kg wet	0.0200		93.5	70-130				
m+p Xylene	0.0379	0.0040	mg/Kg wet	0.0400		94.8	70-130				
o-Xylene	0.0186	0.0020	mg/Kg wet	0.0200		92.9	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0532*		mg/Kg wet	0.0500		106	70-130				
Surrogate: Toluene-d8	*0.0512*		mg/Kg wet	0.0500		102	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0490*		mg/Kg wet	0.0500		97.9	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B264068 - SW-846 5035											
LCS Dup (B264068-BSD1)				Prepared & Analyzed: 08/11/20							
Acetone	0.252	0.10	mg/Kg wet	0.200		126	40-160	2.88	20	V-20	†
tert-Amyl Methyl Ether (TAME)	0.0202	0.0010	mg/Kg wet	0.0200		101	70-130	0.395	20		
Benzene	0.0187	0.0020	mg/Kg wet	0.0200		93.3	70-130	2.96	20		
Bromobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-130	4.83	20		
Bromochloromethane	0.0233	0.0020	mg/Kg wet	0.0200		116	70-130	3.23	20		
Bromodichloromethane	0.0189	0.0020	mg/Kg wet	0.0200		94.6	70-130	3.77	20		
Bromoform	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130	4.17	20		
Bromomethane	0.0170	0.010	mg/Kg wet	0.0200		84.8	40-160	6.06	20	V-34	†
2-Butanone (MEK)	0.250	0.040	mg/Kg wet	0.200		125	40-160	0.534	20	V-20	†
n-Butylbenzene	0.0171	0.0020	mg/Kg wet	0.0200		85.3	70-130	3.80	20		
sec-Butylbenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130	11.1	20		
tert-Butylbenzene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130	0.0956	20		
tert-Butyl Ethyl Ether (TBEE)	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130	1.34	20		
Carbon Disulfide	0.162	0.0060	mg/Kg wet	0.200		80.9	70-130	5.13	20		
Carbon Tetrachloride	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130	5.81	20		
Chlorobenzene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	2.10	20		
Chlorodibromomethane	0.0206	0.0010	mg/Kg wet	0.0200		103	70-130	1.35	20		
Chloroethane	0.0196	0.010	mg/Kg wet	0.0200		98.2	70-130	3.80	20		
Chloroform	0.0178	0.0040	mg/Kg wet	0.0200		89.2	70-130	6.51	20		
Chloromethane	0.0202	0.010	mg/Kg wet	0.0200		101	40-160	0.494	20		†
2-Chlorotoluene	0.0186	0.0020	mg/Kg wet	0.0200		93.2	70-130	7.93	20		
4-Chlorotoluene	0.0183	0.0020	mg/Kg wet	0.0200		91.6	70-130	4.59	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0223	0.0020	mg/Kg wet	0.0200		112	70-130	11.7	20		
1,2-Dibromoethane (EDB)	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130	4.94	20		
Dibromomethane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	4.03	20		
1,2-Dichlorobenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	0.384	20		
1,3-Dichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130	4.35	20		
1,4-Dichlorobenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	0.489	20		
Dichlorodifluoromethane (Freon 12)	0.0151	0.010	mg/Kg wet	0.0200		75.6	40-160	8.85	20		†
1,1-Dichloroethane	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	2.94	20		
1,2-Dichloroethane	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130	0.901	20		
1,1-Dichloroethylene	0.0171	0.0040	mg/Kg wet	0.0200		85.3	70-130	11.5	20		
cis-1,2-Dichloroethylene	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130	2.16	20		
trans-1,2-Dichloroethylene	0.0198	0.0020	mg/Kg wet	0.0200		99.0	70-130	2.79	20		
1,2-Dichloropropane	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130	1.21	20		
1,3-Dichloropropane	0.0201	0.0010	mg/Kg wet	0.0200		100	70-130	0.596	20		
2,2-Dichloropropane	0.0168	0.0020	mg/Kg wet	0.0200		84.1	70-130	2.93	20		
1,1-Dichloropropene	0.0168	0.0020	mg/Kg wet	0.0200		83.8	70-130	12.4	20		
cis-1,3-Dichloropropene	0.0188	0.0010	mg/Kg wet	0.0200		93.8	70-130	4.28	20		
trans-1,3-Dichloropropene	0.0197	0.0010	mg/Kg wet	0.0200		98.4	70-130	1.85	20		
Diethyl Ether	0.0175	0.010	mg/Kg wet	0.0200		87.6	70-130	2.70	20		
Diisopropyl Ether (DIPE)	0.0229	0.0010	mg/Kg wet	0.0200		115	70-130	0.174	20		
1,4-Dioxane	0.224	0.10	mg/Kg wet	0.200		112	40-160	15.4	20		†
Ethylbenzene	0.0175	0.0020	mg/Kg wet	0.0200		87.5	70-130	8.01	20		
Hexachlorobutadiene	0.0170	0.0020	mg/Kg wet	0.0200		85.0	70-130	16.9	20		
2-Hexanone (MBK)	0.230	0.020	mg/Kg wet	0.200		115	40-160	4.02	20		†
Isopropylbenzene (Cumene)	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	2.53	20		
p-Isopropyltoluene (p-Cymene)	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130	6.24	20		
Methyl tert-Butyl Ether (MTBE)	0.0200	0.0040	mg/Kg wet	0.0200		100	70-130	4.71	20		
Methylene Chloride	0.0222	0.010	mg/Kg wet	0.0200		111	70-130	4.40	20		
4-Methyl-2-pentanone (MIBK)	0.229	0.020	mg/Kg wet	0.200		115	40-160	3.14	20		†
Naphthalene	0.0150	0.0040	mg/Kg wet	0.0200		75.1	70-130	0.399	20	V-05	

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B264068 - SW-846 5035										
LCS Dup (B264068-BSD1)				Prepared & Analyzed: 08/11/20						
n-Propylbenzene	0.0177	0.0020	mg/Kg wet	0.0200		88.7	70-130	4.73	20	
Styrene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	2.53	20	
1,1,1,2-Tetrachloroethane	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130	1.69	20	
1,1,2,2-Tetrachloroethane	0.0193	0.0010	mg/Kg wet	0.0200		96.7	70-130	6.89	20	
Tetrachloroethylene	0.0178	0.0020	mg/Kg wet	0.0200		88.8	70-130	5.58	20	
Tetrahydrofuran	0.0229	0.010	mg/Kg wet	0.0200		114	70-130	0.351	20	
Toluene	0.0177	0.0020	mg/Kg wet	0.0200		88.5	70-130	3.77	20	
1,2,3-Trichlorobenzene	0.0168	0.0020	mg/Kg wet	0.0200		83.8	70-130	4.21	20	
1,2,4-Trichlorobenzene	0.0177	0.0020	mg/Kg wet	0.0200		88.5	70-130	7.62	20	
1,1,1-Trichloroethane	0.0174	0.0020	mg/Kg wet	0.0200		86.8	70-130	3.73	20	
1,1,2-Trichloroethane	0.0185	0.0020	mg/Kg wet	0.0200		92.5	70-130	2.14	20	
Trichloroethylene	0.0174	0.0020	mg/Kg wet	0.0200		87.0	70-130	1.14	20	
Trichlorofluoromethane (Freon 11)	0.0174	0.010	mg/Kg wet	0.0200		86.8	70-130	12.0	20	
1,2,3-Trichloropropane	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	0.0947	20	
1,2,4-Trimethylbenzene	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130	4.82	20	
1,3,5-Trimethylbenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.6	70-130	4.85	20	
Vinyl Chloride	0.0179	0.010	mg/Kg wet	0.0200		89.5	70-130	4.37	20	
m+p Xylene	0.0371	0.0040	mg/Kg wet	0.0400		92.6	70-130	2.24	20	
o-Xylene	0.0184	0.0020	mg/Kg wet	0.0200		91.9	70-130	1.08	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0529*		mg/Kg wet	0.0500		106	70-130			
Surrogate: Toluene-d8	*0.0513*		mg/Kg wet	0.0500		103	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0490*		mg/Kg wet	0.0500		98.0	70-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.

V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
1,2-Dibromoethane (EDB)	NY
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
1,4-Dioxane	NY
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NH,NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NY
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	10/1/2020

20H0587

con-test® ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name:	TRC Environmental Corp
Address:	2 Liberty Square, Boston, MA
Phone:	857-338-6559
Project Name:	GLX Disposal Sampling
Project Location:	Somerville, MA
Project Number:	310142.0008 - PO 141425
Project Manager:	Ryan Niles - Rniles@trccompanies.com
Con-Test Quote Name/Number:	
Invoice Recipient:	
Sampled By:	

Requested Turnaround Time
7-Day ☐ 10-Day ☐
Due Date: 5 day TAT

Rush Approval Required
1-Day ☐ 3-Day ☑
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other:
CLP Like Data Pkg Required: ☐
Email To: kmorin@trccompanies.com
Fax To #:

Con-Test Work Order#	Client Sample ID / Description	DATE	TIME	Composite	Grab	[1]Matrix Code	Conc Code	VOCs 5035/8260C High/Low	SVOC 8270D SOIS	TPH 8015C GC-FID Quant.	PCB 8015C w/ Soxhlet	MCP 14 Metals	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See Comment	Ignitability via 1030	Specific Conductance via 9050	pH via 9045	Pesticides and Herbicides
	Wash-MH186-DC-comp	8/7/20	0880	X		S			X	X	X	X	X	X	X	X	X	X
1	Wash-MH186(A)-DC-VOC	" "	0845		X	S		X										
2	Wash-MH186(B)-DC-VOC	" "	0910		X	S		X										
3	Wash-MH186(C)-DC-VOC	" "	0930		X	S		X										

# of Containers
[2] Preservation Code
[3] Container Code

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

[3] Container Codes:
A = Amber Glass
G = Glass
P = Plastic
ST = Sterile
V = Vial
S = Summa Canister
T = Tedlar Bag
O = Other (please define)

Comments: MCP Project and <RCS-1 Detection Limits Required, Please Call if Unable to Meet
Add'l Emails for data: Lnakolan@trccompanies.com, LVolk@trccompanies.com, bayres@trccompanies.com, pzhou@trccompanies.com.
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 8/7/20@1342	
Received by: (signature)	Date/Time: 8/7/20 1342	
Relinquished by: (signature)	Date/Time: 8/7/20 1815	
Received by: (signature)	Date/Time: 8/7/20 1815	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA: <RCS-1 MA MCP
CT:
Other:

Special Requirements
☑ MA MCP Required
☐ MCP Certification Form Required
☑ CT RCP Required
☐ RCP Certification Form Required
☐ MA State DW Required
PWSID #

con-test® ANALYTICAL LABORATORY www.contestlabs.com

Project Entity
☐ Government ☐ Municipality ☐ MWRA ☐ WRTA
☐ Federal ☐ 21 J ☐ School
☐ City ☐ Brimfield ☒ MBTA

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

PCB ONLY
☑ Soxhlet
☐ Non Soxhlet

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I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client TRC

Received By [signature] Date 8/7/20 Time 1815

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____

Direct from Sampling _____ Ambient _____ Melted Ice _____

By Gun # 4 Actual Temp - 5.4

Were samples within Temperature? 2-6°C T By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name F

Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? F Who was notified? _____

Are there Short Holds? _____ Who was notified? _____

Is there enough Volume? T

Is there Headspace where applicable? n/a MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? Acid n/a Base n/a

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-	3	250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	2
DI-	6	Other Glass		Other Plastic	1	Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen: 8/7 @ 1815	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

Meghan Kelley

From: Ayres, Benjamin <BAyres@trccompanies.com> on behalf of Ayres, Benjamin
Sent: Friday, August 07, 2020 2:32 PM
To: Kerry McGee; Meghan Kelley
Cc: Morin, Kristen; Niles, Ryan; Nakolan, Laura
Subject: GLXC Sampling 8/7/20
Attachments: MH186 COC.jpg

Kerry and Meghan,

A COC was submitted earlier today for 4 samples, 3 VOC grabs and 1 composite sample – please see the COC attached. Can we have following breakdown of samples to specific Purchase Orders:

- 3 VOC Grabs billed to PO 155483 – PN: 310142.0002 P4 T14
- 1 Composite Sample billed to PO 150406 – PN: 310142.0008 P2 T14

Apologies for the inconvenience please let me know if you have any questions.

Thanks,

Benjamin N. Ayres
Project Scientist

2 Liberty Square, 6th Floor, Boston, MA 02109
C 860.335.9951
LinkedIn | Twitter | Blog | TRCcompanies.com

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 20H0387
Project Location: Somerville, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

20H0387-01 thru 20H0387-03

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP VPH CAM IV C ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	MassDEP EPH CAM IV B ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]
	A response to questions G, H and I below is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]
	<u>Data User Note:</u> Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.		
H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Position: Director of Operations

Printed Name: Daren J. Damboragian Date: 08/14/20

ANALYTICAL REPORT

Lab Number:	L2033621
Client:	TRC Environmental Consultants Two Liberty Square Sixth Floor Boston, MA 02109
ATTN:	Ryan Niles
Phone:	(978) 656-3600
Project Name:	MBTA GLX DISPOSAL SAMPLING
Project Number:	310142.0002 P4 T12
Report Date:	08/24/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2033621-01	WASH-MH119-DC-COMP	SOIL	SOMERVILLE, MA	08/18/20 12:00	08/18/20
L2033621-02	WASH-MH119A-DC-VOC	SOIL	SOMERVILLE, MA	08/18/20 12:00	08/18/20
L2033621-03	WASH-MH119B-DC-VOC	SOIL	SOMERVILLE, MA	08/18/20 12:00	08/18/20
L2033621-04	WASH-MH119C-DC-VOC	SOIL	SOMERVILLE, MA	08/18/20 12:00	08/18/20
L2033621-05	WASH-MH281-DC-COMP	SOIL	SOMERVILLE, MA	08/18/20 12:50	08/18/20
L2033621-06	WASH-MH281A-DC-VOC	SOIL	SOMERVILLE, MA	08/18/20 12:50	08/18/20
L2033621-07	WASH-MH281B-DC-VOC	SOIL	SOMERVILLE, MA	08/18/20 12:50	08/18/20
L2033621-08	WASH-MH281C-DC-VOC	SOIL	SOMERVILLE, MA	08/18/20 12:50	08/18/20
L2033621-09	WASH-MH281D-DC-VOC	SOIL	SOMERVILLE, MA	08/18/20 12:50	08/18/20

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2033621
Project Number:	310142.0002 P4 T12	**Report Date:**	08/24/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2033621
Project Number:	310142.0002 P4 T12	**Report Date:**	08/24/20

Case Narrative (continued)

Report Revision

August 24, 2020: Client sample IDs "WASH-MH119-DC-COMP" and "WASH-MH281-DC-COMP" were removed.

MCP Related Narratives

Volatile Organics

In reference to question H:

The WG1400518-3/-4 LCS/LCSD recoveries, associated with L2033621-02, -03, -04, -06, -07, and -08, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially high bias for 1,4-dioxane (143%/138%) and a potentially low bias for dichlorodifluoromethane (53%/53%).

The WG1401047-3/-4 LCS/LCSD recoveries, associated with L2033621-09, are outside the acceptance criteria for individual target compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially high bias for 2-butanone (LCSD 132%) and a potentially low bias for dichlorodifluoromethane (56%/56%).

The initial calibration, associated with L2033621-02, -03, -04, -06, -07, -08 and -09, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0509) and 1,4-dioxane (0.0019), as well as the average response factor for 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane. In addition, the initial calibration verification is outside acceptance criteria for chloromethane (131%), vinyl chloride (133%), and dichlorodifluoromethane (162%).

The continuing calibration standards, associated with -02, -03, -04, -06, -07, -08 and -09, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 08/24/20

QC OUTLIER SUMMARY REPORT

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics by EPA 5035 Low - Westborough Lab								
8260C	Batch QC	WG1400518-3	Dichlorodifluoromethane	LCS	53	70-130	02-04,06-08	potential low bias
8260C	Batch QC	WG1400518-3	1,4-Dioxane	LCS	143	70-130	02-04,06-08	potential high bias
8260C	Batch QC	WG1400518-4	Dichlorodifluoromethane	LCSD	53	70-130	02-04,06-08	potential low bias
8260C	Batch QC	WG1400518-4	1,4-Dioxane	LCSD	138	70-130	02-04,06-08	potential high bias
8260C	Batch QC	WG1401047-3	Dichlorodifluoromethane	LCS	56	70-130	09	potential low bias
8260C	Batch QC	WG1401047-4	Dichlorodifluoromethane	LCSD	56	70-130	09	potential low bias
8260C	Batch QC	WG1401047-4	Methyl ethyl ketone	LCSD	132	70-130	09	potential high bias

ORGANICS

VOLATILES

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-02
Client ID: WASH-MH119A-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:00
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 08/19/20 13:09
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.76	--	1
Chloroform	ND		ug/kg	1.1	--	1
Carbon tetrachloride	ND		ug/kg	0.76	--	1
1,2-Dichloropropane	ND		ug/kg	0.76	--	1
Dibromochloromethane	ND		ug/kg	0.76	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	--	1
Tetrachloroethene	3.8		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.0	--	1
1,2-Dichloroethane	ND		ug/kg	0.76	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	0.70		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.76	--	1
Ethylbenzene	ND		ug/kg	0.76	--	1
Chloromethane	ND		ug/kg	3.0	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.76	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.76	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-02 Date Collected: 08/18/20 12:00
Client ID: WASH-MH119A-DC-VOC Date Received: 08/18/20
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	0.62		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.76	--	1
Xylenes, Total	ND		ug/kg	0.76	--	1
cis-1,2-Dichloroethene	0.77		ug/kg	0.76	--	1
1,2-Dichloroethene, Total	0.77		ug/kg	0.76	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.76	--	1
Dichlorodifluoromethane	ND		ug/kg	7.6	--	1
Acetone	28		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.6	--	1
Methyl ethyl ketone	ND		ug/kg	7.6	--	1
Methyl isobutyl ketone	ND		ug/kg	7.6	--	1
2-Hexanone	ND		ug/kg	7.6	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.0	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.76	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.76	--	1
sec-Butylbenzene	ND		ug/kg	0.76	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.0	--	1
Isopropylbenzene	ND		ug/kg	0.76	--	1
p-Isopropyltoluene	ND		ug/kg	0.76	--	1
Naphthalene	ND		ug/kg	3.0	--	1
n-Propylbenzene	ND		ug/kg	0.76	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-02 Date Collected: 08/18/20 12:00

Client ID: WASH-MH119A-DC-VOC Date Received: 08/18/20

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	61	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	94		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-03
Client ID: WASH-MH119B-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:00
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 08/19/20 13:35
Analyst: MKS
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.5	--	1
Carbon tetrachloride	ND		ug/kg	1.0	--	1
1,2-Dichloropropane	ND		ug/kg	1.0	--	1
Dibromochloromethane	ND		ug/kg	1.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	6.6		ug/kg	0.50	--	1
Chlorobenzene	ND		ug/kg	0.50	--	1
Trichlorofluoromethane	ND		ug/kg	4.0	--	1
1,2-Dichloroethane	ND		ug/kg	1.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	--	1
Bromodichloromethane	ND		ug/kg	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--	1
1,1-Dichloropropene	ND		ug/kg	0.50	--	1
Bromoform	ND		ug/kg	4.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Benzene	ND		ug/kg	0.50	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	1.0	--	1
Chloromethane	ND		ug/kg	4.0	--	1
Bromomethane	ND		ug/kg	2.0	--	1
Vinyl chloride	ND		ug/kg	1.0	--	1
Chloroethane	ND		ug/kg	2.0	--	1
1,1-Dichloroethene	ND		ug/kg	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-03 Date Collected: 08/18/20 12:00
Client ID: WASH-MH119B-DC-VOC Date Received: 08/18/20
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	0.78		ug/kg	0.50	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	--	1
Methyl tert butyl ether	ND		ug/kg	2.0	--	1
p/m-Xylene	ND		ug/kg	2.0	--	1
o-Xylene	ND		ug/kg	1.0	--	1
Xylenes, Total	ND		ug/kg	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--	1
Dibromomethane	ND		ug/kg	2.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	--	1
Styrene	ND		ug/kg	1.0	--	1
Dichlorodifluoromethane	ND		ug/kg	10	--	1
Acetone	ND		ug/kg	25	--	1
Carbon disulfide	ND		ug/kg	10	--	1
Methyl ethyl ketone	ND		ug/kg	10	--	1
Methyl isobutyl ketone	ND		ug/kg	10	--	1
2-Hexanone	ND		ug/kg	10	--	1
Bromochloromethane	ND		ug/kg	2.0	--	1
Tetrahydrofuran	ND		ug/kg	4.0	--	1
2,2-Dichloropropane	ND		ug/kg	2.0	--	1
1,2-Dibromoethane	ND		ug/kg	1.0	--	1
1,3-Dichloropropane	ND		ug/kg	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--	1
Bromobenzene	ND		ug/kg	2.0	--	1
n-Butylbenzene	ND		ug/kg	1.0	--	1
sec-Butylbenzene	ND		ug/kg	1.0	--	1
tert-Butylbenzene	ND		ug/kg	2.0	--	1
o-Chlorotoluene	ND		ug/kg	2.0	--	1
p-Chlorotoluene	ND		ug/kg	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--	1
Hexachlorobutadiene	ND		ug/kg	4.0	--	1
Isopropylbenzene	ND		ug/kg	1.0	--	1
p-Isopropyltoluene	ND		ug/kg	1.0	--	1
Naphthalene	ND		ug/kg	4.0	--	1
n-Propylbenzene	ND		ug/kg	1.0	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-03 Date Collected: 08/18/20 12:00

Client ID: WASH-MH119B-DC-VOC Date Received: 08/18/20

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--	1
Diethyl ether	ND		ug/kg	2.0	--	1
Diisopropyl Ether	ND		ug/kg	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--	1
1,4-Dioxane	ND		ug/kg	80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	93		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-04
Client ID: WASH-MH119C-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:00
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 08/19/20 14:02
Analyst: MKS
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.2	--	1
1,1-Dichloroethane	ND		ug/kg	0.83	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.83	--	1
1,2-Dichloropropane	ND		ug/kg	0.83	--	1
Dibromochloromethane	ND		ug/kg	0.83	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.83	--	1
Tetrachloroethene	3.0		ug/kg	0.42	--	1
Chlorobenzene	ND		ug/kg	0.42	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.83	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.42	--	1
Bromodichloromethane	ND		ug/kg	0.42	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.83	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.42	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.42	--	1
1,1-Dichloropropene	ND		ug/kg	0.42	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Benzene	0.45		ug/kg	0.42	--	1
Toluene	ND		ug/kg	0.83	--	1
Ethylbenzene	ND		ug/kg	0.83	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	0.83	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.83	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-04 Date Collected: 08/18/20 12:00

Client ID: WASH-MH119C-DC-VOC Date Received: 08/18/20

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.42	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	--	1
Methyl tert butyl ether	ND		ug/kg	1.7	--	1
p/m-Xylene	ND		ug/kg	1.7	--	1
o-Xylene	ND		ug/kg	0.83	--	1
Xylenes, Total	ND		ug/kg	0.83	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.83	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.83	--	1
Dibromomethane	ND		ug/kg	1.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	--	1
Styrene	ND		ug/kg	0.83	--	1
Dichlorodifluoromethane	ND		ug/kg	8.3	--	1
Acetone	26		ug/kg	21	--	1
Carbon disulfide	ND		ug/kg	8.3	--	1
Methyl ethyl ketone	ND		ug/kg	8.3	--	1
Methyl isobutyl ketone	ND		ug/kg	8.3	--	1
2-Hexanone	ND		ug/kg	8.3	--	1
Bromochloromethane	ND		ug/kg	1.7	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.7	--	1
1,2-Dibromoethane	ND		ug/kg	0.83	--	1
1,3-Dichloropropane	ND		ug/kg	1.7	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.42	--	1
Bromobenzene	ND		ug/kg	1.7	--	1
n-Butylbenzene	ND		ug/kg	0.83	--	1
sec-Butylbenzene	ND		ug/kg	0.83	--	1
tert-Butylbenzene	ND		ug/kg	1.7	--	1
o-Chlorotoluene	ND		ug/kg	1.7	--	1
p-Chlorotoluene	ND		ug/kg	1.7	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.83	--	1
p-Isopropyltoluene	ND		ug/kg	0.83	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.83	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-04 Date Collected: 08/18/20 12:00

Client ID: WASH-MH119C-DC-VOC Date Received: 08/18/20

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	--	1
Diethyl ether	ND		ug/kg	1.7	--	1
Diisopropyl Ether	ND		ug/kg	1.7	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.7	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.7	--	1
1,4-Dioxane	ND		ug/kg	67	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	95		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-06
Client ID: WASH-MH281A-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:50
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 08/19/20 14:28
Analyst: MKS
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.1	--	1
1,1-Dichloroethane	ND		ug/kg	0.83	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.83	--	1
1,2-Dichloropropane	ND		ug/kg	0.83	--	1
Dibromochloromethane	ND		ug/kg	0.83	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.83	--	1
Tetrachloroethene	1.8		ug/kg	0.41	--	1
Chlorobenzene	ND		ug/kg	0.41	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.83	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	--	1
Bromodichloromethane	ND		ug/kg	0.41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.83	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	--	1
1,1-Dichloropropene	ND		ug/kg	0.41	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Benzene	0.48		ug/kg	0.41	--	1
Toluene	ND		ug/kg	0.83	--	1
Ethylbenzene	ND		ug/kg	0.83	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.83	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.83	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-06 Date Collected: 08/18/20 12:50
Client ID: WASH-MH281A-DC-VOC Date Received: 08/18/20
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.41	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.83	--	1
Xylenes, Total	ND		ug/kg	0.83	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.83	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.83	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.83	--	1
Dichlorodifluoromethane	ND		ug/kg	8.3	--	1
Acetone	28		ug/kg	21	--	1
Carbon disulfide	ND		ug/kg	8.3	--	1
Methyl ethyl ketone	ND		ug/kg	8.3	--	1
Methyl isobutyl ketone	ND		ug/kg	8.3	--	1
2-Hexanone	ND		ug/kg	8.3	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.83	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.83	--	1
sec-Butylbenzene	ND		ug/kg	0.83	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.83	--	1
p-Isopropyltoluene	ND		ug/kg	0.83	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.83	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-06 Date Collected: 08/18/20 12:50

Client ID: WASH-MH281A-DC-VOC Date Received: 08/18/20

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	66	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	96		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-07
Client ID: WASH-MH281B-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:50
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 08/19/20 14:54
Analyst: MKS
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.4	--	1
1,1-Dichloroethane	ND		ug/kg	0.89	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.89	--	1
1,2-Dichloropropane	ND		ug/kg	0.89	--	1
Dibromochloromethane	ND		ug/kg	0.89	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.89	--	1
Tetrachloroethene	1.3		ug/kg	0.44	--	1
Chlorobenzene	ND		ug/kg	0.44	--	1
Trichlorofluoromethane	ND		ug/kg	3.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.89	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.44	--	1
Bromodichloromethane	ND		ug/kg	0.44	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.89	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.44	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.44	--	1
1,1-Dichloropropene	ND		ug/kg	0.44	--	1
Bromoform	ND		ug/kg	3.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Benzene	0.66		ug/kg	0.44	--	1
Toluene	ND		ug/kg	0.89	--	1
Ethylbenzene	ND		ug/kg	0.89	--	1
Chloromethane	ND		ug/kg	3.6	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.89	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.89	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-07 Date Collected: 08/18/20 12:50
Client ID: WASH-MH281B-DC-VOC Date Received: 08/18/20
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.44	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.89	--	1
Xylenes, Total	ND		ug/kg	0.89	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.89	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.89	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.89	--	1
Dichlorodifluoromethane	ND		ug/kg	8.9	--	1
Acetone	37		ug/kg	22	--	1
Carbon disulfide	ND		ug/kg	8.9	--	1
Methyl ethyl ketone	ND		ug/kg	8.9	--	1
Methyl isobutyl ketone	ND		ug/kg	8.9	--	1
2-Hexanone	ND		ug/kg	8.9	--	1
Bromochloromethane	ND		ug/kg	1.8	--	1
Tetrahydrofuran	ND		ug/kg	3.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.89	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.44	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.89	--	1
sec-Butylbenzene	ND		ug/kg	0.89	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	--	1
Hexachlorobutadiene	ND		ug/kg	3.6	--	1
Isopropylbenzene	ND		ug/kg	0.89	--	1
p-Isopropyltoluene	ND		ug/kg	0.89	--	1
Naphthalene	ND		ug/kg	3.6	--	1
n-Propylbenzene	ND		ug/kg	0.89	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-07 Date Collected: 08/18/20 12:50

Client ID: WASH-MH281B-DC-VOC Date Received: 08/18/20

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
Diethyl ether	ND		ug/kg	1.8	--	1
Diisopropyl Ether	ND		ug/kg	1.8	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.8	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.8	--	1
1,4-Dioxane	ND		ug/kg	71	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	95		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-08
Client ID: WASH-MH281C-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:50
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 08/19/20 15:20
Analyst: MKS
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.77	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.77	--	1
1,2-Dichloropropane	ND		ug/kg	0.77	--	1
Dibromochloromethane	ND		ug/kg	0.77	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.77	--	1
Tetrachloroethene	1.3		ug/kg	0.38	--	1
Chlorobenzene	ND		ug/kg	0.38	--	1
Trichlorofluoromethane	ND		ug/kg	3.1	--	1
1,2-Dichloroethane	ND		ug/kg	0.77	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	--	1
Bromodichloromethane	ND		ug/kg	0.38	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.77	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	--	1
1,1-Dichloropropene	ND		ug/kg	0.38	--	1
Bromoform	ND		ug/kg	3.1	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Benzene	0.68		ug/kg	0.38	--	1
Toluene	ND		ug/kg	0.77	--	1
Ethylbenzene	ND		ug/kg	0.77	--	1
Chloromethane	ND		ug/kg	3.1	--	1
Bromomethane	ND		ug/kg	1.5	--	1
Vinyl chloride	ND		ug/kg	0.77	--	1
Chloroethane	ND		ug/kg	1.5	--	1
1,1-Dichloroethene	ND		ug/kg	0.77	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-08 Date Collected: 08/18/20 12:50
Client ID: WASH-MH281C-DC-VOC Date Received: 08/18/20
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.5	--	1
p/m-Xylene	ND		ug/kg	1.5	--	1
o-Xylene	ND		ug/kg	0.77	--	1
Xylenes, Total	ND		ug/kg	0.77	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.77	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.77	--	1
Dibromomethane	ND		ug/kg	1.5	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	--	1
Styrene	ND		ug/kg	0.77	--	1
Dichlorodifluoromethane	ND		ug/kg	7.7	--	1
Acetone	32		ug/kg	19	--	1
Carbon disulfide	ND		ug/kg	7.7	--	1
Methyl ethyl ketone	ND		ug/kg	7.7	--	1
Methyl isobutyl ketone	ND		ug/kg	7.7	--	1
2-Hexanone	ND		ug/kg	7.7	--	1
Bromochloromethane	ND		ug/kg	1.5	--	1
Tetrahydrofuran	ND		ug/kg	3.1	--	1
2,2-Dichloropropane	ND		ug/kg	1.5	--	1
1,2-Dibromoethane	ND		ug/kg	0.77	--	1
1,3-Dichloropropane	ND		ug/kg	1.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	--	1
Bromobenzene	ND		ug/kg	1.5	--	1
n-Butylbenzene	ND		ug/kg	0.77	--	1
sec-Butylbenzene	ND		ug/kg	0.77	--	1
tert-Butylbenzene	ND		ug/kg	1.5	--	1
o-Chlorotoluene	ND		ug/kg	1.5	--	1
p-Chlorotoluene	ND		ug/kg	1.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	--	1
Hexachlorobutadiene	ND		ug/kg	3.1	--	1
Isopropylbenzene	ND		ug/kg	0.77	--	1
p-Isopropyltoluene	ND		ug/kg	0.77	--	1
Naphthalene	ND		ug/kg	3.1	--	1
n-Propylbenzene	ND		ug/kg	0.77	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-08 Date Collected: 08/18/20 12:50

Client ID: WASH-MH281C-DC-VOC Date Received: 08/18/20

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	--	1
Diethyl ether	ND		ug/kg	1.5	--	1
Diisopropyl Ether	ND		ug/kg	1.5	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.5	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.5	--	1
1,4-Dioxane	ND		ug/kg	62	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-09
Client ID: WASH-MH281D-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:50
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 08/20/20 14:25
Analyst: KJD
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.1	--	1
1,1-Dichloroethane	ND		ug/kg	0.83	--	1
Chloroform	ND		ug/kg	1.2	--	1
Carbon tetrachloride	ND		ug/kg	0.83	--	1
1,2-Dichloropropane	ND		ug/kg	0.83	--	1
Dibromochloromethane	ND		ug/kg	0.83	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.83	--	1
Tetrachloroethene	1.4		ug/kg	0.41	--	1
Chlorobenzene	ND		ug/kg	0.41	--	1
Trichlorofluoromethane	ND		ug/kg	3.3	--	1
1,2-Dichloroethane	ND		ug/kg	0.83	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	--	1
Bromodichloromethane	ND		ug/kg	0.41	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.83	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	--	1
1,1-Dichloropropene	ND		ug/kg	0.41	--	1
Bromoform	ND		ug/kg	3.3	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Benzene	0.54		ug/kg	0.41	--	1
Toluene	ND		ug/kg	0.83	--	1
Ethylbenzene	ND		ug/kg	0.83	--	1
Chloromethane	ND		ug/kg	3.3	--	1
Bromomethane	ND		ug/kg	1.6	--	1
Vinyl chloride	ND		ug/kg	0.83	--	1
Chloroethane	ND		ug/kg	1.6	--	1
1,1-Dichloroethene	ND		ug/kg	0.83	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-09 Date Collected: 08/18/20 12:50
Client ID: WASH-MH281D-DC-VOC Date Received: 08/18/20
Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	0.46		ug/kg	0.41	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.6	--	1
p/m-Xylene	ND		ug/kg	1.6	--	1
o-Xylene	ND		ug/kg	0.83	--	1
Xylenes, Total	ND		ug/kg	0.83	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.83	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.83	--	1
Dibromomethane	ND		ug/kg	1.6	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	--	1
Styrene	ND		ug/kg	0.83	--	1
Dichlorodifluoromethane	ND		ug/kg	8.3	--	1
Acetone	36		ug/kg	21	--	1
Carbon disulfide	ND		ug/kg	8.3	--	1
Methyl ethyl ketone	ND		ug/kg	8.3	--	1
Methyl isobutyl ketone	ND		ug/kg	8.3	--	1
2-Hexanone	ND		ug/kg	8.3	--	1
Bromochloromethane	ND		ug/kg	1.6	--	1
Tetrahydrofuran	ND		ug/kg	3.3	--	1
2,2-Dichloropropane	ND		ug/kg	1.6	--	1
1,2-Dibromoethane	ND		ug/kg	0.83	--	1
1,3-Dichloropropane	ND		ug/kg	1.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	--	1
Bromobenzene	ND		ug/kg	1.6	--	1
n-Butylbenzene	ND		ug/kg	0.83	--	1
sec-Butylbenzene	ND		ug/kg	0.83	--	1
tert-Butylbenzene	ND		ug/kg	1.6	--	1
o-Chlorotoluene	ND		ug/kg	1.6	--	1
p-Chlorotoluene	ND		ug/kg	1.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.3	--	1
Isopropylbenzene	ND		ug/kg	0.83	--	1
p-Isopropyltoluene	ND		ug/kg	0.83	--	1
Naphthalene	ND		ug/kg	3.3	--	1
n-Propylbenzene	ND		ug/kg	0.83	--	1

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-09 Date Collected: 08/18/20 12:50

Client ID: WASH-MH281D-DC-VOC Date Received: 08/18/20

Sample Location: SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	--	1
Diethyl ether	ND		ug/kg	1.6	--	1
Diisopropyl Ether	ND		ug/kg	1.6	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	1.6	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	1.6	--	1
1,4-Dioxane	ND		ug/kg	66	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	96		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/19/20 08:24
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04,06-08 Batch: WG1400518-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/19/20 08:24
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04,06-08 Batch: WG1400518-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/19/20 08:24
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04,06-08 Batch: WG1400518-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	87		70-130

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/20/20 07:55
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 09 Batch: WG1401047-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: MBTA GLX DISPOSAL SAMPLING **Lab Number:** L2033621

Project Number: 310142.0002 P4 T12 **Report Date:** 08/24/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/20/20 07:55
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 09 Batch: WG1401047-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12
Lab Number: L2033621
Report Date: 08/24/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/20/20 07:55
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 09 Batch: WG1401047-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	88		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04,06-08 Batch: WG1400518-3 WG1400518-4								
Methylene chloride	105		106		70-130	1		20
1,1-Dichloroethane	114		114		70-130	0		20
Chloroform	99		100		70-130	1		20
Carbon tetrachloride	96		96		70-130	0		20
1,2-Dichloropropane	119		121		70-130	2		20
Dibromochloromethane	78		80		70-130	3		20
1,1,2-Trichloroethane	92		93		70-130	1		20
Tetrachloroethene	96		98		70-130	2		20
Chlorobenzene	84		85		70-130	1		20
Trichlorofluoromethane	93		93		70-130	0		20
1,2-Dichloroethane	104		105		70-130	1		20
1,1,1-Trichloroethane	105		105		70-130	0		20
Bromodichloromethane	97		98		70-130	1		20
trans-1,3-Dichloropropene	90		91		70-130	1		20
cis-1,3-Dichloropropene	107		107		70-130	0		20
1,1-Dichloropropene	119		118		70-130	1		20
Bromoform	75		78		70-130	4		20
1,1,2,2-Tetrachloroethane	84		87		70-130	4		20
Benzene	108		108		70-130	0		20
Toluene	94		94		70-130	0		20
Ethylbenzene	94		94		70-130	0		20
Chloromethane	92		91		70-130	1		20
Bromomethane	75		74		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04,06-08 Batch: WG1400518-3 WG1400518-4								
Vinyl chloride	88		88		70-130	0		20
Chloroethane	79		79		70-130	0		20
1,1-Dichloroethene	116		116		70-130	0		20
trans-1,2-Dichloroethene	111		112		70-130	1		20
Trichloroethene	106		106		70-130	0		20
1,2-Dichlorobenzene	82		83		70-130	1		20
1,3-Dichlorobenzene	83		84		70-130	1		20
1,4-Dichlorobenzene	82		82		70-130	0		20
Methyl tert butyl ether	113		114		70-130	1		20
p/m-Xylene	91		91		70-130	0		20
o-Xylene	83		83		70-130	0		20
cis-1,2-Dichloroethene	108		109		70-130	1		20
Dibromomethane	99		100		70-130	1		20
1,2,3-Trichloropropane	85		88		70-130	3		20
Styrene	84		85		70-130	1		20
Dichlorodifluoromethane	**53**	Q	**53**	Q	70-130	0		20
Acetone	92		91		70-130	1		20
Carbon disulfide	83		84		70-130	1		20
Methyl ethyl ketone	114		125		70-130	9		20
Methyl isobutyl ketone	110		113		70-130	3		20
2-Hexanone	94		97		70-130	3		20
Bromochloromethane	97		99		70-130	2		20
Tetrahydrofuran	119		122		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04,06-08 Batch: WG1400518-3 WG1400518-4								
2,2-Dichloropropane	107		106		70-130	1		20
1,2-Dibromoethane	91		93		70-130	2		20
1,3-Dichloropropane	93		94		70-130	1		20
1,1,1,2-Tetrachloroethane	81		81		70-130	0		20
Bromobenzene	79		82		70-130	4		20
n-Butylbenzene	88		87		70-130	1		20
sec-Butylbenzene	92		93		70-130	1		20
tert-Butylbenzene	89		90		70-130	1		20
o-Chlorotoluene	88		90		70-130	2		20
p-Chlorotoluene	87		89		70-130	2		20
1,2-Dibromo-3-chloropropane	83		83		70-130	0		20
Hexachlorobutadiene	93		92		70-130	1		20
Isopropylbenzene	92		95		70-130	3		20
p-Isopropyltoluene	89		90		70-130	1		20
Naphthalene	108		105		70-130	3		20
n-Propylbenzene	92		95		70-130	3		20
1,2,3-Trichlorobenzene	88		86		70-130	2		20
1,2,4-Trichlorobenzene	88		88		70-130	0		20
1,3,5-Trimethylbenzene	90		92		70-130	2		20
1,2,4-Trimethylbenzene	87		89		70-130	2		20
Diethyl ether	116		115		70-130	1		20
Diisopropyl Ether	120		119		70-130	1		20
Ethyl-Tert-Butyl-Ether	120		119		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0002 P4 T12

Lab Number: L2033621

Report Date: 08/24/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04,06-08 Batch: WG1400518-3 WG1400518-4								
Tertiary-Amyl Methyl Ether	106		105		70-130	1		20
1,4-Dioxane	**143**	Q	**138**	Q	70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		92		70-130
Toluene-d8	92		91		70-130
4-Bromofluorobenzene	105		107		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 09 Batch: WG1401047-3 WG1401047-4								
Methylene chloride	111		113		70-130	2		20
1,1-Dichloroethane	124		124		70-130	0		20
Chloroform	108		108		70-130	0		20
Carbon tetrachloride	105		104		70-130	1		20
1,2-Dichloropropane	130		129		70-130	1		20
Dibromochloromethane	83		83		70-130	0		20
1,1,2-Trichloroethane	96		97		70-130	1		20
Tetrachloroethene	104		103		70-130	1		20
Chlorobenzene	89		90		70-130	1		20
Trichlorofluoromethane	100		99		70-130	1		20
1,2-Dichloroethane	113		113		70-130	0		20
1,1,1-Trichloroethane	115		114		70-130	1		20
Bromodichloromethane	107		106		70-130	1		20
trans-1,3-Dichloropropene	95		96		70-130	1		20
cis-1,3-Dichloropropene	116		115		70-130	1		20
1,1-Dichloropropene	130		129		70-130	1		20
Bromoform	81		78		70-130	4		20
1,1,2,2-Tetrachloroethane	90		86		70-130	5		20
Benzene	117		116		70-130	1		20
Toluene	100		99		70-130	1		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	103		106		70-130	3		20
Bromomethane	83		82		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 09 Batch: WG1401047-3 WG1401047-4								
Vinyl chloride	97		96		70-130	1		20
Chloroethane	87		88		70-130	1		20
1,1-Dichloroethene	126		124		70-130	2		20
trans-1,2-Dichloroethene	120		119		70-130	1		20
Trichloroethene	116		115		70-130	1		20
1,2-Dichlorobenzene	85		86		70-130	1		20
1,3-Dichlorobenzene	87		87		70-130	0		20
1,4-Dichlorobenzene	85		85		70-130	0		20
Methyl tert butyl ether	120		121		70-130	1		20
p/m-Xylene	96		97		70-130	1		20
o-Xylene	89		89		70-130	0		20
cis-1,2-Dichloroethene	117		116		70-130	1		20
Dibromomethane	106		105		70-130	1		20
1,2,3-Trichloropropane	90		88		70-130	2		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	**56**	Q	**56**	Q	70-130	0		20
Acetone	122		107		70-130	13		20
Carbon disulfide	92		91		70-130	1		20
Methyl ethyl ketone	121		**132**	Q	70-130	9		20
Methyl isobutyl ketone	116		116		70-130	0		20
2-Hexanone	106		105		70-130	1		20
Bromochloromethane	104		105		70-130	1		20
Tetrahydrofuran	112		112		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 09 Batch: WG1401047-3 WG1401047-4								
2,2-Dichloropropane	118		115		70-130	3		20
1,2-Dibromoethane	95		96		70-130	1		20
1,3-Dichloropropane	96		99		70-130	3		20
1,1,1,2-Tetrachloroethane	86		86		70-130	0		20
Bromobenzene	86		83		70-130	4		20
n-Butylbenzene	92		92		70-130	0		20
sec-Butylbenzene	98		96		70-130	2		20
tert-Butylbenzene	95		92		70-130	3		20
o-Chlorotoluene	95		91		70-130	4		20
p-Chlorotoluene	94		91		70-130	3		20
1,2-Dibromo-3-chloropropane	86		89		70-130	3		20
Hexachlorobutadiene	98		99		70-130	1		20
Isopropylbenzene	101		96		70-130	5		20
p-Isopropyltoluene	96		94		70-130	2		20
Naphthalene	100		102		70-130	2		20
n-Propylbenzene	100		95		70-130	5		20
1,2,3-Trichlorobenzene	90		91		70-130	1		20
1,2,4-Trichlorobenzene	91		92		70-130	1		20
1,3,5-Trimethylbenzene	96		93		70-130	3		20
1,2,4-Trimethylbenzene	94		91		70-130	3		20
Diethyl ether	121		122		70-130	1		20
Diisopropyl Ether	128		128		70-130	0		20
Ethyl-Tert-Butyl-Ether	127		128		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MBTA GLX DISPOSAL SAMPLING

Project Number: 310142.0002 P4 T12

Lab Number: L2033621

Report Date: 08/24/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 09 Batch: WG1401047-3 WG1401047-4								
Tertiary-Amyl Methyl Ether	112		114		70-130	2		20
1,4-Dioxane	122		127		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		93		70-130
Toluene-d8	90		89		70-130
4-Bromofluorobenzene	106		101		70-130
Dibromofluoromethane	92		92		70-130

INORGANICS
&
MISCELLANEOUS

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-02
Client ID: WASH-MH119A-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:00
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.4		%	0.100	NA	1	-	08/18/20 22:51	121,2540G	SB

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-03
Client ID: WASH-MH119B-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:00
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.4		%	0.100	NA	1	-	08/18/20 22:51	121,2540G	SB

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-04
Client ID: WASH-MH119C-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:00
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.9		%	0.100	NA	1	-	08/18/20 22:51	121,2540G	SB

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-06
Client ID: WASH-MH281A-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:50
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.9		%	0.100	NA	1	-	08/18/20 22:51	121,2540G	SB

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-07
Client ID: WASH-MH281B-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:50
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.0		%	0.100	NA	1	-	08/18/20 22:51	121,2540G	SB

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-08
Client ID: WASH-MH281C-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:50
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.3		%	0.100	NA	1	-	08/18/20 22:51	121,2540G	SB

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

SAMPLE RESULTS

Lab ID: L2033621-09
Client ID: WASH-MH281D-DC-VOC
Sample Location: SOMERVILLE, MA

Date Collected: 08/18/20 12:50
Date Received: 08/18/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.1		%	0.100	NA	1	-	08/18/20 22:51	121,2540G	SB

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2033621-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		HOLD-METAL(180)
L2033621-01B	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		HOLD-8270(14)
L2033621-02A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-02B	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-02C	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-02D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L2033621-03A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-03B	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-03C	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-03D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L2033621-04A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-04B	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-04C	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-04D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L2033621-05A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		HOLD-METAL(180)
L2033621-05B	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		HOLD-8270(14)
L2033621-06A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-06B	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-06C	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-06D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L2033621-07A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-07B	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-07C	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)

*Values in parentheses indicate holding time in days

Project Name: MBTA GLX DISPOSAL SAMPLING
Project Number: 310142.0002 P4 T12

Lab Number: L2033621
Report Date: 08/24/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2033621-07D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L2033621-08A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-08B	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-08C	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-08D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L2033621-09A	Vial MeOH preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-09B	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-09C	Vial NaHSO4 preserved	A	NA		3.6	Y	Absent		MCP-8260HLG-10(14)
L2033621-09D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2033621
Project Number:	310142.0002 P4 T12	**Report Date:**	08/24/20

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2033621
Project Number:	310142.0002 P4 T12	**Report Date:**	08/24/20

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2033621
Project Number:	310142.0002 P4 T12	**Report Date:**	08/24/20

Data Qualifiers

Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	MBTA GLX DISPOSAL SAMPLING	**Lab Number:**	L2033621
Project Number:	310142.0002 P4 T12	**Report Date:**	08/24/20

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 8/18/20

ALPHA Job #: L2033621

ALPHA ANALYTICAL
Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: TRC Environmental Corp
Address: 2 Liberty Square
Boston, MA 02109
Phone: 617-476-1303
Fax:
Email: RMiles
Mbobiowski@trccompanies.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: MBTA GLX Disposal Sampling
Project Location: Somerville, MA
Project #: 310142.0008.0000 Phase 2 Task1
Project Manager: Ryan Miles
ALPHA Quote #: 7623R1

Turn-Around Time

☐ Standard ☒ Rush (ONLY IF PRE-APPROVED)
10 3 Day TAT
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 135774

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MCP	RCS-1: <0.10 mg/kg PCBs and <5 mg/kg selenium

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☒ No	Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
MCP PROJECT AND < RCS-1 DETECTION LIMITS REQUIRED PLEASE CALL IF UNABLE TO MEET
Add'l emails: KMorin@trccompanies.com, lvolk@[redacted].com, lnakolan@[redacted].com, bayres@[redacted].com, [redacted]
Run TCLP for any analyte that fails the 20x Rule
Run VOCs for Low Level first

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs via 5035/8260C (High Level)	VOCs via 5035/8260C (Low Level)	SVOCs via 8270D	TPH via 8015C GC-FID Quantitation	PCBs via 8082A w/Soxhlet extraction	MCP 14 Metals via 6010C/7471B	Reactive Sulfide & Cyanide via 7.3	TCLP Lead - See comment	Ignitability via 1030, pH via 9045	Specific Conductance via 9050	Pesticides and Herbicides	
33621-01	Wash-MH119-DC-comp	8/18/20	1200	S	CR	☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
-02	Wash-MH119A-DC-VOC					☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-03	Wash-MH119B-DC-VOC					☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-04	Wash-MH119C-DC-VOC					☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-05	Wash-MH281-DC-comp		1250			☐	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐
-06	Wash-MH281A-DC-VOC					☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-07	Wash-MH281B-DC-VOC					☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-08	Wash-MH281C-DC-VOC					☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
-09	Wash-MH281D-DC-VOC					☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Container Type						V	V	A	A	A	A	A	A	A	A	A	A
Preservative						F	G	A	A	A	A	A	A	A	A	A	A

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
	8/18/20 1533	PLM A&L	8/18/20 1533
	8/18/20 1650		8/18/20 1650

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2033621
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0008 PH2 TK1
Lab Sample ID	: WG1400518-5	**Lab File ID**	: V04200819A05
Instrument ID	: VOA104		
Matrix	: SOIL	**Analysis Date**	: 08/19/20 08:24

Client Sample No.	Lab Sample ID	Analysis Date
WG1400518-3LCS	WG1400518-3	08/19/20 07:06
WG1400518-4LCSD	WG1400518-4	08/19/20 07:32
WASH-MH119A-DC-VOC	L2033621-02	08/19/20 13:09
WASH-MH119B-DC-VOC	L2033621-03	08/19/20 13:35
WASH-MH119C-DC-VOC	L2033621-04	08/19/20 14:02
WASH-MH281A-DC-VOC	L2033621-06	08/19/20 14:28
WASH-MH281B-DC-VOC	L2033621-07	08/19/20 14:54
WASH-MH281C-DC-VOC	L2033621-08	08/19/20 15:20

Method Blank Summary
Form 4
Volatiles

Client	: TRC Environmental Consultants	**Lab Number**	: L2033621
Project Name	: MBTA GLX DISPOSAL SAMPLING	**Project Number**	: 310142.0008 PH2 TK1
Lab Sample ID	: WG1401047-5	**Lab File ID**	: V04200820A05
Instrument ID	: VOA104		
Matrix	: SOLID	**Analysis Date**	: 08/20/20 07:55

Client Sample No.	Lab Sample ID	Analysis Date
WG1401047-3LCS	WG1401047-3	08/20/20 06:38
WG1401047-4LCSD	WG1401047-4	08/20/20 07:04
WASH-MH281D-DC-VOC	L2033621-09	08/20/20 14:25

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2033621	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0008 PH2 TK1	
Instrument ID	: VOA104		**Calibration Date**	: 08/19/20 07:06	
Lab File ID	: V04200819A02		**Init. Calib. Date(s)**	: 06/02/20	06/02/20
Sample No	: WG1400518-2		**Init. Calib. Times**	: 04:50	08:16
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	81	0
Dichlorodifluoromethane	0.219	0.116	-	47*	20	44	0
Chloromethane	0.26	0.24	-	7.7	20	80	0
Vinyl chloride	0.287	0.252	-	12.2	20	69	0
Bromomethane	0.234	0.175	-	25.2*	20	64	0
Chloroethane	0.19	0.15	-	21.1*	20	64	0
Trichlorofluoromethane	0.459	0.425	-	7.4	20	77	0
Ethyl ether	0.118	0.136	-	-15.3	20	101	0
1,1-Dichloroethene	0.237	0.274	-	-15.6	20	91	0
Carbon disulfide	0.789	0.658	-	16.6	20	74	0
Freon-113	0.263	0.278	-	-5.7	20	87	0
Acrolein	0.026	0.019*	-	26.9*	20	66	0
Methylene chloride	0.294	0.307	-	-4.4	20	96	0
Acetone	40	36.786	-	8	20	77	0
trans-1,2-Dichloroethene	0.285	0.317	-	-11.2	20	92	0
Methyl acetate	0.11	0.12	-	-9.1	20	96	0
Methyl tert-butyl ether	0.63	0.712	-	-13	20	99	0
tert-Butyl alcohol	0.021	0.026*	-	-23.8*	20	109	0
Diisopropyl ether	0.835	0.998	-	-19.5	20	104	0
1,1-Dichloroethane	0.512	0.585	-	-14.3	20	97	0
Halothane	0.221	0.254	-	-14.9	20	90	0
Acrylonitrile	0.043	0.063	-	-46.5*	20	124	0
Ethyl tert-butyl ether	0.796	0.952	-	-19.6	20	105	0
Vinyl acetate	0.425	0.591	-	-39.1*	20	124	0
cis-1,2-Dichloroethene	0.32	0.343	-	-7.2	20	93	0
2,2-Dichloropropane	0.431	0.46	-	-6.7	20	87	0
Bromochloromethane	0.157	0.152	-	3.2	20	83	0
Cyclohexane	0.397	0.543	-	-36.8*	20	113	0
Chloroform	0.55	0.546	-	0.7	20	89	0
Ethyl acetate	0.17	0.201	-	-18.2	20	110	0
Carbon tetrachloride	40	38.337	-	4.2	20	83	0
Tetrahydrofuran	0.059	0.071	-	-20.3*	20	108	0
Dibromofluoromethane	0.289	0.262	-	9.3	20	73	0
1,1,1-Trichloroethane	0.455	0.477	-	-4.8	20	84	0
2-Butanone	0.065	0.075*	-	-15.4	20	95	0
1,1-Dichloropropene	0.352	0.419	-	-19	20	94	0
Benzene	1.12	1.208	-	-7.9	20	96	0
tert-Amyl methyl ether	0.715	0.755	-	-5.6	20	92	0
1,2-Dichloroethane-d4	0.239	0.218	-	8.8	20	75	0
1,2-Dichloroethane	0.344	0.357	-	-3.8	20	91	0
Methyl cyclohexane	0.443	0.505	-	-14	20	95	0
Trichloroethene	0.314	0.333	-	-6.1	20	90	0
Dibromomethane	0.17	0.169	-	0.6	20	85	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2033621	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0008 PH2 TK1	
Instrument ID	: VOA104		**Calibration Date**	: 08/19/20 07:06	
Lab File ID	: V04200819A02		**Init. Calib. Date(s)**	: 06/02/20	06/02/20
Sample No	: WG1400518-2		**Init. Calib. Times**	: 04:50	08:16
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.283	0.337	-	-19.1	20	103	0
2-Chloroethyl vinyl ether	0.134	0.168	-	-25.4*	20	102	0
Bromodichloromethane	0.425	0.412	-	3.1	20	87	0
1,4-Dioxane	0.00154	0.0022*	-	-42.9*	20	113	0
cis-1,3-Dichloropropene	0.459	0.491	-	-7	20	92	0
Chlorobenzene-d5	1	1	-	0	20	95	0
Toluene-d8	1.329	1.226	-	7.8	20	88	0
Toluene	0.93	0.875	-	5.9	20	93	0
4-Methyl-2-pentanone	0.092	0.101	-	-9.8	20	113	0
Tetrachloroethene	0.416	0.4	-	3.8	20	89	0
trans-1,3-Dichloropropene	0.502	0.454	-	9.6	20	90	0
Ethyl methacrylate	0.347	0.339	-	2.3	20	98	0
1,1,2-Trichloroethane	0.25	0.229	-	8.4	20	94	0
Chlorodibromomethane	0.44	0.344	-	21.8*	20	81	0
1,3-Dichloropropane	0.47	0.437	-	7	20	93	0
1,2-Dibromoethane	0.299	0.272	-	9	20	90	0
2-Hexanone	0.161	0.152	-	5.6	20	97	0
Chlorobenzene	1.16	0.972	-	16.2	20	88	0
Ethylbenzene	1.765	1.658	-	6.1	20	93	0
1,1,1,2-Tetrachloroethane	0.441	0.357	-	19	20	83	0
p/m Xylene	0.699	0.635	-	9.2	20	90	0
o Xylene	0.699	0.582	-	16.7	20	86	0
Styrene	1.144	0.966	-	15.6	20	86	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	95	0
Bromoform	0.517	0.387	-	25.1*	20	76	0
Isopropylbenzene	3.392	3.133	-	7.6	20	89	0
4-Bromofluorobenzene	0.913	0.955	-	-4.6	20	101	0
Bromobenzene	0.968	0.767	-	20.8*	20	82	0
n-Propylbenzene	3.992	3.655	-	8.4	20	89	0
1,4-Dichlorobutane	0.82	0.852	-	-3.9	20	111	0
1,1,2,2-Tetrachloroethane	0.717	0.602	-	16	20	91	0
4-Ethyltoluene	3.335	3.043	-	8.8	20	89	0
2-Chlorotoluene	2.408	2.116	-	12.1	20	89	0
1,3,5-Trimethylbenzene	2.878	2.592	-	9.9	20	89	0
1,2,3-Trichloropropane	0.51	0.433	-	15.1	20	88	0
trans-1,4-Dichloro-2-buten	0.147	0.155	-	-5.4	20	102	0
4-Chlorotoluene	2.509	2.189	-	12.8	20	91	0
tert-Butylbenzene	2.434	2.158	-	11.3	20	85	0
1,2,4-Trimethylbenzene	2.858	2.493	-	12.8	20	87	0
sec-Butylbenzene	3.565	3.285	-	7.9	20	87	0
p-Isopropyltoluene	3.097	2.759	-	10.9	20	84	0
1,3-Dichlorobenzene	1.747	1.447	-	17.2	20	84	0
1,4-Dichlorobenzene	1.776	1.462	-	17.7	20	86	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2033621	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0008 PH2 TK1	
Instrument ID	: VOA104		**Calibration Date**	: 08/19/20 07:06	
Lab File ID	: V04200819A02		**Init. Calib. Date(s)**	: 06/02/20	06/02/20
Sample No	: WG1400518-2		**Init. Calib. Times**	: 04:50	08:16
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.842	1.654	-	10.2	20	87	0
n-Butylbenzene	2.757	2.432	-	11.8	20	83	0
1,2-Dichlorobenzene	1.58	1.299	-	17.8	20	83	0
1,2,4,5-Tetramethylbenzene	2.73	2.546	-	6.7	20	94	0
1,2-Dibromo-3-chloropropan	0.105	0.087	-	17.1	20	82	0
1,3,5-Trichlorobenzene	1.216	1.024	-	15.8	20	86	0
Hexachlorobutadiene	0.567	0.527	-	7.1	20	93	0
1,2,4-Trichlorobenzene	1.028	0.899	-	12.5	20	89	0
Naphthalene	1.721	1.852	-	-7.6	20	111	0
1,2,3-Trichlorobenzene	0.904	0.791	-	12.5	20	91	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2033621	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0008 PH2 TK1	
Instrument ID	: VOA104		**Calibration Date**	: 08/20/20 06:38	
Lab File ID	: V04200820A02		**Init. Calib. Date(s)**	: 06/02/20	06/02/20
Sample No	: WG1401047-2		**Init. Calib. Times**	: 04:50	08:16
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	78	0
Dichlorodifluoromethane	0.219	0.122	-	44.3*	20	44	0
Chloromethane	0.26	0.268	-	-3.1	20	86	0
Vinyl chloride	0.287	0.277	-	3.5	20	72	0
Bromomethane	0.234	0.195	-	16.7	20	68	0
Chloroethane	0.19	0.165	-	13.2	20	68	0
Trichlorofluoromethane	0.459	0.46	-	-0.2	20	79	0
Ethyl ether	0.118	0.142	-	-20.3*	20	101	0
1,1-Dichloroethene	0.237	0.299	-	-26.2*	20	95	0
Carbon disulfide	0.789	0.728	-	7.7	20	78	0
Methylene chloride	0.294	0.327	-	-11.2	20	97	0
Acetone	40	48.642	-	-21.6*	20	94	0
trans-1,2-Dichloroethene	0.285	0.343	-	-20.4*	20	95	0
Methyl tert-butyl ether	0.63	0.759	-	-20.5*	20	101	0
Diisopropyl ether	0.835	1.066	-	-27.7*	20	106	0
1,1-Dichloroethane	0.512	0.636	-	-24.2*	20	101	0
Ethyl tert-butyl ether	0.796	1.012	-	-27.1*	20	107	0
cis-1,2-Dichloroethene	0.32	0.373	-	-16.6	20	96	0
2,2-Dichloropropane	0.431	0.507	-	-17.6	20	92	0
Bromochloromethane	0.157	0.164	-	-4.5	20	85	0
Chloroform	0.55	0.597	-	-8.5	20	93	0
Carbon tetrachloride	40	41.85	-	-4.6	20	87	0
Tetrahydrofuran	0.059	0.066	-	-11.9	20	97	0
Dibromofluoromethane	0.289	0.266	-	8	20	71	0
1,1,1-Trichloroethane	0.455	0.525	-	-15.4	20	89	0
2-Butanone	0.065	0.079*	-	-21.5*	20	96	0
1,1-Dichloropropene	0.352	0.459	-	-30.4*	20	99	0
Benzene	1.12	1.314	-	-17.3	20	100	0
tert-Amyl methyl ether	0.715	0.805	-	-12.6	20	94	0
1,2-Dichloroethane-d4	0.239	0.218	-	8.8	20	72	0
1,2-Dichloroethane	0.344	0.389	-	-13.1	20	95	0
Trichloroethene	0.314	0.364	-	-15.9	20	94	0
Dibromomethane	0.17	0.181	-	-6.5	20	87	0
1,2-Dichloropropane	0.283	0.367	-	-29.7*	20	107	0
Bromodichloromethane	0.425	0.454	-	-6.8	20	91	0
1,4-Dioxane	0.00154	0.00187*	-	-21.4*	20	92	0
cis-1,3-Dichloropropene	0.459	0.534	-	-16.3	20	96	0
Chlorobenzene-d5	1	1	-	0	20	95	0
Toluene-d8	1.329	1.193	-	10.2	20	85	0
Toluene	0.93	0.928	-	0.2	20	98	0
4-Methyl-2-pentanone	0.092	0.106	-	-15.2	20	117	0
Tetrachloroethene	0.416	0.431	-	-3.6	20	95	0
trans-1,3-Dichloropropene	0.502	0.477	-	5	20	93	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: TRC Environmental Consultants		**Lab Number**	: L2033621	
Project Name	: MBTA GLX DISPOSAL SAMPLING		**Project Number**	: 310142.0008 PH2 TK1	
Instrument ID	: VOA104		**Calibration Date**	: 08/20/20 06:38	
Lab File ID	: V04200820A02		**Init. Calib. Date(s)**	: 06/02/20	06/02/20
Sample No	: WG1401047-2		**Init. Calib. Times**	: 04:50	08:16
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.25	0.24	-	4	20	98	0
Chlorodibromomethane	0.44	0.365	-	17	20	86	0
1,3-Dichloropropane	0.47	0.452	-	3.8	20	96	0
1,2-Dibromoethane	0.299	0.285	-	4.7	20	94	0
2-Hexanone	0.161	0.17	-	-5.6	20	108	0
Chlorobenzene	1.16	1.032	-	11	20	93	0
Ethylbenzene	1.765	1.767	-	-0.1	20	98	0
1,1,1,2-Tetrachloroethane	0.441	0.38	-	13.8	20	88	0
p/m Xylene	0.699	0.674	-	3.6	20	95	0
o Xylene	0.699	0.62	-	11.3	20	90	0
Styrene	1.144	1.024	-	10.5	20	91	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	93	0
Bromoform	0.517	0.418	-	19.1	20	80	0
Isopropylbenzene	3.392	3.416	-	-0.7	20	95	0
4-Bromofluorobenzene	0.913	0.963	-	-5.5	20	99	0
Bromobenzene	0.968	0.83	-	14.3	20	87	0
n-Propylbenzene	3.992	3.973	-	0.5	20	94	0
1,1,2,2-Tetrachloroethane	0.717	0.644	-	10.2	20	95	0
2-Chlorotoluene	2.408	2.279	-	5.4	20	94	0
1,3,5-Trimethylbenzene	2.878	2.771	-	3.7	20	94	0
1,2,3-Trichloropropane	0.51	0.461	-	9.6	20	92	0
4-Chlorotoluene	2.509	2.349	-	6.4	20	95	0
tert-Butylbenzene	2.434	2.323	-	4.6	20	90	0
1,2,4-Trimethylbenzene	2.858	2.675	-	6.4	20	92	0
sec-Butylbenzene	3.565	3.493	-	2	20	91	0
p-Isopropyltoluene	3.097	2.964	-	4.3	20	89	0
1,3-Dichlorobenzene	1.747	1.528	-	12.5	20	87	0
1,4-Dichlorobenzene	1.776	1.515	-	14.7	20	87	0
n-Butylbenzene	2.757	2.544	-	7.7	20	86	0
1,2-Dichlorobenzene	1.58	1.348	-	14.7	20	84	0
1,2-Dibromo-3-chloropropan	0.105	0.09	-	14.3	20	83	0
Hexachlorobutadiene	0.567	0.554	-	2.3	20	96	0
1,2,4-Trichlorobenzene	1.028	0.936	-	8.9	20	91	0
Naphthalene	1.721	1.722	-	-0.1	20	101	0
1,2,3-Trichlorobenzene	0.904	0.81	-	10.4	20	91	0

*** Value outside of QC limits.**

Appendix D

Laboratory Testing Reports

ANALYTICAL REPORT

Lab Number:	L2231461
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Catherine M. Malagrida
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	06/24/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2231461
Report Date: 06/24/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2231461-01	045163-9KNOW-SV1	SOIL_VAPOR	SOMERVILLE, MA	06/09/22 18:08	06/14/22
L2231461-02	045163-9KNOW-B	AIR	SOMERVILLE, MA	06/09/22 17:14	06/14/22
L2231461-03	045163-9KNOW-1	AIR	SOMERVILLE, MA	06/09/22 17:18	06/14/22

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2231461
Report Date: 06/24/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L2231461
Project Number:	045163	**Report Date:**	06/24/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	TUFTS STREET	**Lab Number:**	L2231461
Project Number:	045163	**Report Date:**	06/24/22

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on May 26, 2022. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

Sample Receipt

L2231461-02: The sample had an RPD for the pre- and post-flow controller calibration check (33% RPD) that was outside of the control limit (20% RPD). The final pressure recorded by the laboratory of the associated canister was -12.4 inches of mercury. No further action was required.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 06/24/22

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2231461
Report Date: 06/24/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2231461
Report Date: 06/24/22

SAMPLE RESULTS

Lab ID: L2231461-01
Client ID: 045163-9KNOW-SV1
Sample Location: SOMERVILLE, MA

Date Collected: 06/09/22 18:08
Date Received: 06/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 06/23/22 00:51
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	1.40	0.200	--	9.49	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	87		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2231461
Report Date: 06/24/22

SAMPLE RESULTS

Lab ID: L2231461-02
Client ID: 045163-9KNOW-B
Sample Location: SOMERVILLE, MA

Date Collected: 06/09/22 17:14
Date Received: 06/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 06/23/22 00:18
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.657	0.020	--	4.46	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	85		60-140
bromochloromethane	87		60-140
chlorobenzene-d5	89		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2231461
Report Date: 06/24/22

SAMPLE RESULTS

Lab ID: L2231461-03
Client ID: 045163-9KNOW-1
Sample Location: SOMERVILLE, MA

Date Collected: 06/09/22 17:18
Date Received: 06/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 06/22/22 23:48
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.047	0.020	--	0.319	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	86		60-140
bromochloromethane	88		60-140
chlorobenzene-d5	90		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2231461
Report Date: 06/24/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 06/22/22 15:02

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 02-03 Batch: WG1654116-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2231461
Report Date: 06/24/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15
Analytical Date: 06/22/22 14:33

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1654118-4								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2231461

Report Date: 06/24/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 02-03 Batch: WG1654116-3								
Vinyl chloride	98		-		70-130	-		
1,1-Dichloroethene	103		-		70-130	-		
trans-1,2-Dichloroethene	92		-		70-130	-		
1,1-Dichloroethane	96		-		70-130	-		
cis-1,2-Dichloroethene	85		-		70-130	-		
1,1,1-Trichloroethane	108		-		70-130	-		
Trichloroethene	90		-		70-130	-		
1,1,2-Trichloroethane	98		-		70-130	-		
Tetrachloroethene	71		-		70-130	-		
1,1,2,2-Tetrachloroethane	91		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2231461

Report Date: 06/24/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1654118-3								
Vinyl chloride	100		-		70-130	-		
1,1-Dichloroethene	99		-		70-130	-		
trans-1,2-Dichloroethene	95		-		70-130	-		
1,1-Dichloroethane	97		-		70-130	-		
cis-1,2-Dichloroethene	87		-		70-130	-		
1,1,1-Trichloroethane	89		-		70-130	-		
Trichloroethene	96		-		70-130	-		
1,1,2-Trichloroethane	101		-		70-130	-		
Tetrachloroethene	77		-		70-130	-		
1,1,2,2-Tetrachloroethane	95		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2231461
Report Date: 06/24/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1654118-5 QC Sample: L2231461-01 Client ID: 045163-9KNOW-SV1						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	1.40	1.49	ppbV	6		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2231461

Report Date: 06/24/22

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2231461-01	045163-9KNOW-SV1	02167	Flow 2	05/26/22	389270		-	-	-	Pass	36.0	36.2	1
L2231461-01	045163-9KNOW-SV1	3108	2.7L Can	05/26/22	389270	L2226183-02	Pass	-29.1	-9.2	-	-	-	-
L2231461-02	045163-9KNOW-B	01605	Flow 5	05/26/22	389270		-	-	-	Pass	3.0	4.2	33
L2231461-02	045163-9KNOW-B	631	6.0L Can	05/26/22	389270	L2223891-05	Pass	-29.4	-12.4	-	-	-	-
L2231461-03	045163-9KNOW-1	01126	Flow 5	05/26/22	389270		-	-	-	Pass	3.0	3.4	13
L2231461-03	045163-9KNOW-1	627	6.0L Can	05/26/22	389270	L2223891-05	Pass	-29.4	-10.9	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2223891
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2223891-05
Client ID: CAN 1866 SHELF 48
Sample Location:

Date Collected: 05/05/22 18:00
Date Received: 05/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/06/22 23:10
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2223891
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2223891-05
Client ID: CAN 1866 SHELF 48
Sample Location:

Date Collected: 05/05/22 18:00
Date Received: 05/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2223891
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2223891-05
Client ID: CAN 1866 SHELF 48
Sample Location:

Date Collected: 05/05/22 18:00
Date Received: 05/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2223891
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2223891-05
Client ID: CAN 1866 SHELF 48
Sample Location:

Date Collected: 05/05/22 18:00
Date Received: 05/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2223891
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2223891-05
Client ID: CAN 1866 SHELF 48
Sample Location:

Date Collected: 05/05/22 18:00
Date Received: 05/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	92		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2223891
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2223891-05
Client ID: CAN 1866 SHELF 48
Sample Location:

Date Collected: 05/05/22 18:00
Date Received: 05/06/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/06/22 23:10
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2223891
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2223891-05
Client ID: CAN 1866 SHELF 48
Sample Location:

Date Collected: 05/05/22 18:00
Date Received: 05/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2223891

Project Number: CANISTER QC BAT **Report Date:** 06/24/22

Air Canister Certification Results

Lab ID: L2223891-05
Client ID: CAN 1866 SHELF 48
Sample Location:

Date Collected: 05/05/22 18:00
Date Received: 05/06/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	93		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	93		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2226183
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2226183-02
Client ID: CAN 377 SHELF 7
Sample Location:

Date Collected: 05/17/22 18:00
Date Received: 05/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/18/22 20:56
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2226183
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2226183-02
Client ID: CAN 377 SHELF 7
Sample Location:

Date Collected: 05/17/22 18:00
Date Received: 05/18/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2226183
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2226183-02
Client ID: CAN 377 SHELF 7
Sample Location:

Date Collected: 05/17/22 18:00
Date Received: 05/18/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2226183
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2226183-02
Client ID: CAN 377 SHELF 7
Sample Location:

Date Collected: 05/17/22 18:00
Date Received: 05/18/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2226183
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2226183-02
Client ID: CAN 377 SHELF 7
Sample Location:

Date Collected: 05/17/22 18:00
Date Received: 05/18/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	91		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2226183
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2226183-02
Client ID: CAN 377 SHELF 7
Sample Location:

Date Collected: 05/17/22 18:00
Date Received: 05/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/18/22 20:56
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2226183
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2226183-02
Client ID: CAN 377 SHELF 7
Sample Location:

Date Collected: 05/17/22 18:00
Date Received: 05/18/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2226183
Report Date: 06/24/22

Air Canister Certification Results

Lab ID: L2226183-02
Client ID: CAN 377 SHELF 7
Sample Location:

Date Collected: 05/17/22 18:00
Date Received: 05/18/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	93		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2231461
Report Date: 06/24/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2231461-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		MCP-TO15(30)
L2231461-02A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)
L2231461-03A	Canister - 6 Liter	NA	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS STREET	**Lab Number:**	L2231461
Project Number:	045163	**Report Date:**	06/24/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2231461
Project Number:	045163	**Report Date:**	06/24/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2231461
Project Number:	045163	**Report Date:**	06/24/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2231461
Project Number:	045163	**Report Date:**	06/24/22

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

CHAIN OF CUSTODY PAGE 1 OF 1

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 6/14/22

ALPHA Job #: L2231461

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Dr.
Woburn MA 01801
Phone: 781-721-4000
Fax:
Email: labdata@geiconsultants.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: Somerville, MA
Project #: 045163
Project Manager: C. Malagrida
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subject Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
31461-01	045163-9KNOW-SV1	6/9/22	1708	1808	-28.91	-9.12	SV	CWS	2.7L	05108	02167	X					See attached list
-02	045163-9KNOW-B	6/9/22	1714	1714	-29.89	-12.31	IA	CWS	6L	631	01605	X					↓
-03	045163-9KNOW-1	6/9/22	1718	1718	-30.63	-10.87	IA	CWS	6L	627	01126	X					

Relinquished By: Meghan Arr CWS 6/9/22 1845 — Received By: GEI Field Room 6/9/22 1845
GEI Field Room 6/14/22 1515 — Malagrida 6/14/22 1515
Malagrida APL 6/14/22 1515 — APL 6-14-22 1315
APL 6-14-22 1720 —

*SAMPLE MATRIX CODES
IA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

R. Malagrida 6/14/22 1515

Form No: 101-02 Rev: (25-Sep-15)

Serial_No:06242213:05

Tufts Street IA/SV Analyte List

- Vinyl chloride
- 1,1-Dichloroethene
- trans-1,2-Dichloroethane
- 1,1-Dichloroethane
- cis-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- Trichloroethene
- 1,1,2-Trichloroethane
- Tetrachloroethene
- 1,1,2,2-Tetrachloroethane

ANALYTICAL REPORT

Lab Number:	L2266910
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	12/13/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2266910
Report Date: 12/13/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2266910-01	045163-MW112A	WATER	50 TUFTS ST. SOMERVILLE, MA	11/29/22 10:00	11/30/22
L2266910-02	045163-MW121D	WATER	50 TUFTS ST. SOMERVILLE, MA	11/29/22 12:30	11/30/22
L2266910-03	045163-MW118D	WATER	50 TUFTS ST. SOMERVILLE, MA	11/29/22 14:15	11/30/22
L2266910-04	045163-MW122	WATER	50 TUFTS ST. SOMERVILLE, MA	11/29/22 15:00	11/30/22

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L2266910
Project Number:	045163	**Report Date:**	12/13/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET **Lab Number:** L2266910
Project Number: 045163 **Report Date:** 12/13/22

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question G:

L2266910-01D and -04D: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L2266910-01D, -02, -03, and -04D: Initial Calibration did not meet:

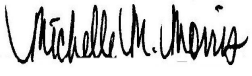
Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0047)

Average Response Factor: 1,4-dioxane

L2266910-01D, -02, -03, and -04D: Initial Calibration Verification outside criteria: carbon disulfide (143%)

L2266910-01D, -02, -03, and -04D: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 12/13/22

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2266910
Report Date: 12/13/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260D	Batch QC	WG1722184-3	Chloroethane	LCS	140	70-130	01-04	potential high bias
8260D	Batch QC	WG1722184-4	Chloroethane	LCSD	140	70-130	01-04	potential high bias

ORGANICS

VOLATILES

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-01 D
Client ID: 045163-MW112A
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 10:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 12/11/22 19:55
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	10	--	5
1,1-Dichloroethane	35		ug/l	5.0	--	5
Chloroform	ND		ug/l	5.0	--	5
Carbon tetrachloride	ND		ug/l	5.0	--	5
1,2-Dichloropropane	ND		ug/l	5.0	--	5
Dibromochloromethane	ND		ug/l	5.0	--	5
1,1,2-Trichloroethane	ND		ug/l	5.0	--	5
Tetrachloroethene	560		ug/l	5.0	--	5
Chlorobenzene	ND		ug/l	5.0	--	5
Trichlorofluoromethane	ND		ug/l	10	--	5
1,2-Dichloroethane	ND		ug/l	5.0	--	5
1,1,1-Trichloroethane	ND		ug/l	5.0	--	5
Bromodichloromethane	ND		ug/l	5.0	--	5
trans-1,3-Dichloropropene	ND		ug/l	2.0	--	5
cis-1,3-Dichloropropene	ND		ug/l	2.0	--	5
1,3-Dichloropropene, Total	ND		ug/l	2.0	--	5
1,1-Dichloropropene	ND		ug/l	10	--	5
Bromoform	ND		ug/l	10	--	5
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	--	5
Benzene	ND		ug/l	2.5	--	5
Toluene	ND		ug/l	5.0	--	5
Ethylbenzene	ND		ug/l	5.0	--	5
Chloromethane	ND		ug/l	10	--	5
Bromomethane	ND		ug/l	10	--	5
Vinyl chloride	ND		ug/l	5.0	--	5
Chloroethane	ND		ug/l	10	--	5
1,1-Dichloroethene	67		ug/l	5.0	--	5
trans-1,2-Dichloroethene	ND		ug/l	5.0	--	5

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-01 D
Client ID: 045163-MW112A
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 10:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	140		ug/l	5.0	--	5
1,2-Dichlorobenzene	ND		ug/l	5.0	--	5
1,3-Dichlorobenzene	ND		ug/l	5.0	--	5
1,4-Dichlorobenzene	ND		ug/l	5.0	--	5
Methyl tert butyl ether	13		ug/l	10	--	5
p/m-Xylene	ND		ug/l	10	--	5
o-Xylene	ND		ug/l	5.0	--	5
Xylenes, Total	ND		ug/l	5.0	--	5
cis-1,2-Dichloroethene	68		ug/l	5.0	--	5
1,2-Dichloroethene, Total	68		ug/l	5.0	--	5
Dibromomethane	ND		ug/l	10	--	5
1,2,3-Trichloropropane	ND		ug/l	10	--	5
Styrene	ND		ug/l	5.0	--	5
Dichlorodifluoromethane	ND		ug/l	10	--	5
Acetone	ND		ug/l	25	--	5
Carbon disulfide	ND		ug/l	10	--	5
Methyl ethyl ketone	ND		ug/l	25	--	5
Methyl isobutyl ketone	ND		ug/l	25	--	5
2-Hexanone	ND		ug/l	25	--	5
Bromochloromethane	ND		ug/l	10	--	5
Tetrahydrofuran	ND		ug/l	10	--	5
2,2-Dichloropropane	ND		ug/l	10	--	5
1,2-Dibromoethane	ND		ug/l	10	--	5
1,3-Dichloropropane	ND		ug/l	10	--	5
1,1,1,2-Tetrachloroethane	ND		ug/l	5.0	--	5
Bromobenzene	ND		ug/l	10	--	5
n-Butylbenzene	ND		ug/l	10	--	5
sec-Butylbenzene	ND		ug/l	10	--	5
tert-Butylbenzene	ND		ug/l	10	--	5
o-Chlorotoluene	ND		ug/l	10	--	5
p-Chlorotoluene	ND		ug/l	10	--	5
1,2-Dibromo-3-chloropropane	ND		ug/l	10	--	5
Hexachlorobutadiene	ND		ug/l	3.0	--	5
Isopropylbenzene	ND		ug/l	10	--	5
p-Isopropyltoluene	ND		ug/l	10	--	5
Naphthalene	ND		ug/l	10	--	5
n-Propylbenzene	ND		ug/l	10	--	5

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-01 D Date Collected: 11/29/22 10:00

Client ID: 045163-MW112A Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	10	--	5
1,2,4-Trichlorobenzene	ND		ug/l	10	--	5
1,3,5-Trimethylbenzene	ND		ug/l	10	--	5
1,2,4-Trimethylbenzene	ND		ug/l	10	--	5
Diethyl ether	ND		ug/l	10	--	5
Diisopropyl Ether	ND		ug/l	10	--	5
Ethyl-Tert-Butyl-Ether	ND		ug/l	10	--	5
Tertiary-Amyl Methyl Ether	ND		ug/l	10	--	5
1,4-Dioxane	ND		ug/l	1200	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	102		70-130

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-02 Date Collected: 11/29/22 12:30
Client ID: 045163-MW121D Date Received: 11/30/22
Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 12/11/22 20:36
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	38		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	54		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	3.0		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	7.3		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-02 Date Collected: 11/29/22 12:30

Client ID: 045163-MW121D Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	32		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	3.3		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	11		ug/l	1.0	--	1
1,2-Dichloroethene, Total	11		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-02 Date Collected: 11/29/22 12:30

Client ID: 045163-MW121D Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	104		70-130

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-03 Date Collected: 11/29/22 14:15
Client ID: 045163-MW118D Date Received: 11/30/22
Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 12/11/22 21:17
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	29		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	1.1		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	2.6		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-03 Date Collected: 11/29/22 14:15

Client ID: 045163-MW118D Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	1.1		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	3.9		ug/l	1.0	--	1
1,2-Dichloroethene, Total	3.9		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-03 Date Collected: 11/29/22 14:15

Client ID: 045163-MW118D Date Received: 11/30/22

Sample Location: 50 TUFTS ST. SOMERVILLE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	112		70-130

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-04 D
Client ID: 045163-MW122
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 15:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 141,8260D
Analytical Date: 12/11/22 21:58
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	20	--	10
1,1-Dichloroethane	24		ug/l	10	--	10
Chloroform	ND		ug/l	10	--	10
Carbon tetrachloride	ND		ug/l	10	--	10
1,2-Dichloropropane	ND		ug/l	10	--	10
Dibromochloromethane	ND		ug/l	10	--	10
1,1,2-Trichloroethane	ND		ug/l	10	--	10
Tetrachloroethene	1200		ug/l	10	--	10
Chlorobenzene	ND		ug/l	10	--	10
Trichlorofluoromethane	ND		ug/l	20	--	10
1,2-Dichloroethane	ND		ug/l	10	--	10
1,1,1-Trichloroethane	ND		ug/l	10	--	10
Bromodichloromethane	ND		ug/l	10	--	10
trans-1,3-Dichloropropene	ND		ug/l	4.0	--	10
cis-1,3-Dichloropropene	ND		ug/l	4.0	--	10
1,3-Dichloropropene, Total	ND		ug/l	4.0	--	10
1,1-Dichloropropene	ND		ug/l	20	--	10
Bromoform	ND		ug/l	20	--	10
1,1,2,2-Tetrachloroethane	ND		ug/l	10	--	10
Benzene	ND		ug/l	5.0	--	10
Toluene	ND		ug/l	10	--	10
Ethylbenzene	ND		ug/l	10	--	10
Chloromethane	ND		ug/l	20	--	10
Bromomethane	ND		ug/l	20	--	10
Vinyl chloride	ND		ug/l	10	--	10
Chloroethane	ND		ug/l	20	--	10
1,1-Dichloroethene	ND		ug/l	10	--	10
trans-1,2-Dichloroethene	ND		ug/l	10	--	10

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-04 D
Client ID: 045163-MW122
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 15:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	160		ug/l	10	--	10
1,2-Dichlorobenzene	ND		ug/l	10	--	10
1,3-Dichlorobenzene	ND		ug/l	10	--	10
1,4-Dichlorobenzene	ND		ug/l	10	--	10
Methyl tert butyl ether	ND		ug/l	20	--	10
p/m-Xylene	ND		ug/l	20	--	10
o-Xylene	ND		ug/l	10	--	10
Xylenes, Total	ND		ug/l	10	--	10
cis-1,2-Dichloroethene	180		ug/l	10	--	10
1,2-Dichloroethene, Total	180		ug/l	10	--	10
Dibromomethane	ND		ug/l	20	--	10
1,2,3-Trichloropropane	ND		ug/l	20	--	10
Styrene	ND		ug/l	10	--	10
Dichlorodifluoromethane	ND		ug/l	20	--	10
Acetone	ND		ug/l	50	--	10
Carbon disulfide	ND		ug/l	20	--	10
Methyl ethyl ketone	ND		ug/l	50	--	10
Methyl isobutyl ketone	ND		ug/l	50	--	10
2-Hexanone	ND		ug/l	50	--	10
Bromochloromethane	ND		ug/l	20	--	10
Tetrahydrofuran	ND		ug/l	20	--	10
2,2-Dichloropropane	ND		ug/l	20	--	10
1,2-Dibromoethane	ND		ug/l	20	--	10
1,3-Dichloropropane	ND		ug/l	20	--	10
1,1,1,2-Tetrachloroethane	ND		ug/l	10	--	10
Bromobenzene	ND		ug/l	20	--	10
n-Butylbenzene	ND		ug/l	20	--	10
sec-Butylbenzene	ND		ug/l	20	--	10
tert-Butylbenzene	ND		ug/l	20	--	10
o-Chlorotoluene	ND		ug/l	20	--	10
p-Chlorotoluene	ND		ug/l	20	--	10
1,2-Dibromo-3-chloropropane	ND		ug/l	20	--	10
Hexachlorobutadiene	ND		ug/l	6.0	--	10
Isopropylbenzene	ND		ug/l	20	--	10
p-Isopropyltoluene	ND		ug/l	20	--	10
Naphthalene	ND		ug/l	20	--	10
n-Propylbenzene	ND		ug/l	20	--	10

Project Name: TUFTS STREET **Lab Number:** L2266910

Project Number: 045163 **Report Date:** 12/13/22

SAMPLE RESULTS

Lab ID: L2266910-04 D
Client ID: 045163-MW122
Sample Location: 50 TUFTS ST. SOMERVILLE, MA

Date Collected: 11/29/22 15:00
Date Received: 11/30/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	20	--	10
1,2,4-Trichlorobenzene	ND		ug/l	20	--	10
1,3,5-Trimethylbenzene	ND		ug/l	20	--	10
1,2,4-Trimethylbenzene	ND		ug/l	20	--	10
Diethyl ether	ND		ug/l	20	--	10
Diisopropyl Ether	ND		ug/l	20	--	10
Ethyl-Tert-Butyl-Ether	ND		ug/l	20	--	10
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	10
1,4-Dioxane	ND		ug/l	2500	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2266910
Report Date: 12/13/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/11/22 14:30
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG1722184-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2266910
Report Date: 12/13/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/11/22 14:30
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG1722184-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L2266910
Report Date: 12/13/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 12/11/22 14:30
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG1722184-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	112		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2266910

Report Date: 12/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG1722184-3 WG1722184-4								
Methylene chloride	110		110		70-130	0		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	110		110		70-130	0		20
Carbon tetrachloride	110		100		70-130	10		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	90		86		70-130	5		20
1,1,2-Trichloroethane	96		91		70-130	5		20
Tetrachloroethene	98		90		70-130	9		20
Chlorobenzene	100		96		70-130	4		20
Trichlorofluoromethane	120		120		70-130	0		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	110		110		70-130	0		20
Bromodichloromethane	100		100		70-130	0		20
trans-1,3-Dichloropropene	98		97		70-130	1		20
cis-1,3-Dichloropropene	99		98		70-130	1		20
1,1-Dichloropropene	100		100		70-130	0		20
Bromoform	81		83		70-130	2		20
1,1,2,2-Tetrachloroethane	100		100		70-130	0		20
Benzene	100		100		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	110		100		70-130	10		20
Chloromethane	120		110		70-130	9		20
Bromomethane	110		110		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2266910

Report Date: 12/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG1722184-3 WG1722184-4								
Vinyl chloride	130		120		70-130	8		20
Chloroethane	**140**	Q	**140**	Q	70-130	0		20
1,1-Dichloroethene	110		110		70-130	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	99		96		70-130	3		20
1,2-Dichlorobenzene	97		97		70-130	0		20
1,3-Dichlorobenzene	98		100		70-130	2		20
1,4-Dichlorobenzene	100		99		70-130	1		20
Methyl tert butyl ether	95		97		70-130	2		20
p/m-Xylene	105		100		70-130	5		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Dibromomethane	98		110		70-130	12		20
1,2,3-Trichloropropane	100		100		70-130	0		20
Styrene	105		100		70-130	5		20
Dichlorodifluoromethane	120		110		70-130	9		20
Acetone	120		110		70-130	9		20
Carbon disulfide	120		110		70-130	9		20
Methyl ethyl ketone	89		89		70-130	0		20
Methyl isobutyl ketone	99		99		70-130	0		20
2-Hexanone	95		97		70-130	2		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	83		100		70-130	19		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2266910
Report Date: 12/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG1722184-3 WG1722184-4								
2,2-Dichloropropane	110		110		70-130	0		20
1,2-Dibromoethane	92		89		70-130	3		20
1,3-Dichloropropane	96		93		70-130	3		20
1,1,1,2-Tetrachloroethane	92		88		70-130	4		20
Bromobenzene	96		96		70-130	0		20
n-Butylbenzene	110		110		70-130	0		20
sec-Butylbenzene	110		100		70-130	10		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	110		110		70-130	0		20
p-Chlorotoluene	110		110		70-130	0		20
1,2-Dibromo-3-chloropropane	96		95		70-130	1		20
Hexachlorobutadiene	99		94		70-130	5		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	98		96		70-130	2		20
n-Propylbenzene	110		110		70-130	0		20
1,2,3-Trichlorobenzene	97		95		70-130	2		20
1,2,4-Trichlorobenzene	97		93		70-130	4		20
1,3,5-Trimethylbenzene	100		110		70-130	10		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20
Diethyl ether	100		100		70-130	0		20
Diisopropyl Ether	98		98		70-130	0		20
Ethyl-Tert-Butyl-Ether	95		96		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2266910

Report Date: 12/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG1722184-3 WG1722184-4								
Tertiary-Amyl Methyl Ether	95		96		70-130	1		20
1,4-Dioxane	106		110		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		105		70-130
Toluene-d8	103		99		70-130
4-Bromofluorobenzene	109		108		70-130
Dibromofluoromethane	103		105		70-130

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2266910
Report Date: 12/13/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2266910-01A	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-01B	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-01C	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-02A	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-02B	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-02C	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-03A	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-03B	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-03C	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-04A	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-04B	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)
L2266910-04C	Vial HCl preserved	A	NA		4.7	Y	Absent		MCP-8260-21(14)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS STREET	**Lab Number:**	L2266910
Project Number:	045163	**Report Date:**	12/13/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2266910
Project Number:	045163	**Report Date:**	12/13/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2266910
Project Number:	045163	**Report Date:**	12/13/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L2266910
Project Number:	045163	**Report Date:**	12/13/22

REFERENCES

141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Chain-of-Custody Record

Laboratory: Alpha

Laboratory Job # (Lab use only) L2266910

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000

Project Information

Project Name: Tufts Street
Project Number: 045163
Send Report to: labdata@geiconsultants.com

Project Location: 50 Tufts St Somerville MA
Project Manager: Joseph Roman
781-721-4130 JRoman@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY AND MCP ANALYTICAL METHODS REQUIRED: (YES) NO

STATE AND FEDERAL REGULATORY REQUIREMENTS/REPORT LIMITS

State/Federal Program: (MA) 401WQC Other _____ NH RI CT NY ME

MA MCP Criteria are Method 1 S-1 and GW-2/GW-3. Circle if GW-1 is required.

Preservative: HCl ~~None~~ None

Sample Handling: Samples Field Filtered YES (NO) NA; Sampled Shipped With Ice (YES) NO

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOCs	Sample Specific Remarks
66910-01	045163-MW12A	11/29/22	10:00	GW	3	JKF	X	
-02	045163-MW12D	"	12:30	GW	3	JKF	X	
-03	045163-MW11SD	"	14:15	GW	3	JKF	X	
-04	045163-MW122	"	15:00	GW	3	JKF	X	

	Relinquished by: (signature)	Date:	Time:	Received by: (signature)
1.	[signature]	11/29/22	17:45	GEI Fridge
2.	GEI Fridge	11/30/22	11:11	[signature]
3.	[signature]	11/30/22	11:11	[signature] DAVIS AAC
4.	[signature] DAVIS	11-30-22	16:10	[signature]
5.				

Turnaround Time (Business days):
Normal X 4-Day ____ 3-Day ____ 2-Day ____ 1-Day ____ Other ____

Before submitting rush turnaround samples, you must notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Sample Matrix Abbreviations: SO = Soil GW = Groundwater SW = Surface Water SD = Sediment CO = Concrete PC = Paint Chip CLK = Caulk

Method Blank Summary
Form 4
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2266910
Project Name	: TUFTS STREET	**Project Number**	: 045163
Lab Sample ID	: WG1722184-5	**Lab File ID**	: J221211A08
Instrument ID	: JACK2		
Matrix	: WATER	**Analysis Date**	: 12/11/22 14:30

Client Sample No.	Lab Sample ID	Analysis Date
WG1722184-3LCS	WG1722184-3	12/11/22 12:26
WG1722184-4LCSD	WG1722184-4	12/11/22 13:08
045163-MW112A	L2266910-01D	12/11/22 19:55
045163-MW121D	L2266910-02	12/11/22 20:36
045163-MW118D	L2266910-03	12/11/22 21:17
045163-MW122	L2266910-04D	12/11/22 21:58

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2266910
Project Name	: TUFTS STREET	**Project Number**	: 045163
Instrument ID	: JACK2	**Calibration Date**	: 12/11/22 12:26
Lab File ID	: J221211A02	**Init. Calib. Date(s)**	: 12/07/22 12/07/22
Sample No	: WG1722184-2	**Init. Calib. Times**	: 05:45 10:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	86	0
Dichlorodifluoromethane	0.516	0.595	-	-15.3	20	89	0
Chloromethane	0.76	0.891	-	-17.2	20	95	0
Vinyl chloride	0.864	1.097	-	-27*	20	98	0
Bromomethane	0.458	0.489	-	-6.8	20	94	0
Chloroethane	0.479	0.688	-	-43.6*	20	109	0
Trichlorofluoromethane	0.877	1.034	-	-17.9	20	93	0
Ethyl ether	0.267	0.283	-	-6	20	85	0
1,1-Dichloroethene	0.517	0.577	-	-11.6	20	88	0
Carbon disulfide	1.007	1.162	-	-15.4	20	91	0
Freon-113	0.532	0.607	-	-14.1	20	89	0
Methylene chloride	0.612	0.663	-	-8.3	20	89	0
Acetone	0.175	0.214	-	-22.3*	20	109	0
trans-1,2-Dichloroethene	0.561	0.61	-	-8.7	20	86	0
Methyl acetate	0.423	0.436	-	-3.1	20	88	0
Methyl tert-butyl ether	1.397	1.322	-	5.4	20	80	0
tert-Butyl alcohol	0.064	0.06	-	6.3	20	86	0
Diisopropyl ether	2.103	2.061	-	2	20	85	0
1,1-Dichloroethane	1.221	1.393	-	-14.1	20	91	0
Halothane	0.394	0.411	-	-4.3	20	80	0
Acrylonitrile	0.2	0.223	-	-11.5	20	89	0
Ethyl tert-butyl ether	1.847	1.756	-	4.9	20	83	0
Vinyl acetate	1.224	1.319	-	-7.8	20	106	0
cis-1,2-Dichloroethene	0.623	0.682	-	-9.5	20	87	0
2,2-Dichloropropane	0.968	1.112	-	-14.9	20	94	0
Bromochloromethane	0.253	0.256	-	-1.2	20	83	0
Cyclohexane	1.213	1.379	-	-13.7	20	91	0
Chloroform	1.091	1.177	-	-7.9	20	88	0
Ethyl acetate	0.613	0.559	-	8.8	20	86	0
Carbon tetrachloride	0.704	0.766	-	-8.8	20	87	0
Tetrahydrofuran	0.231	0.193	-	16.5	20	72	0
Dibromofluoromethane	0.256	0.263	-	-2.7	20	87	0
1,1,1-Trichloroethane	0.854	0.95	-	-11.2	20	89	0
2-Butanone	0.277	0.246	-	11.2	20	79	0
1,1-Dichloropropene	0.817	0.864	-	-5.8	20	86	0
Benzene	2.456	2.533	-	-3.1	20	85	0
tert-Amyl methyl ether	1.585	1.501	-	5.3	20	83	0
1,2-Dichloroethane-d4	0.38	0.403	-	-6.1	20	92	0
1,2-Dichloroethane	0.831	0.916	-	-10.2	20	90	0
Methyl cyclohexane	1.029	1.034	-	-0.5	20	86	0
Trichloroethene	0.594	0.586	-	1.3	20	81	0
Dibromomethane	0.36	0.351	-	2.5	20	77	0
1,2-Dichloropropane	0.711	0.727	-	-2.3	20	83	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2266910
Project Name	: TUFTS STREET	**Project Number**	: 045163
Instrument ID	: JACK2	**Calibration Date**	: 12/11/22 12:26
Lab File ID	: J221211A02	**Init. Calib. Date(s)**	: 12/07/22 12/07/22
Sample No	: WG1722184-2	**Init. Calib. Times**	: 05:45 10:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
2-Chloroethyl vinyl ether	0.361	0.348	-	3.6	20	82	0
Bromodichloromethane	0.825	0.838	-	-1.6	20	84	0
1,4-Dioxane	0.00553	0.00588*	-	-6.3	20	84	0
cis-1,3-Dichloropropene	1.005	0.996	-	0.9	20	84	0
Chlorobenzene-d5	1	1	-	0	20	84	0
Toluene-d8	1.338	1.38	-	-3.1	20	86	0
Toluene	1.936	2.016	-	-4.1	20	84	0
4-Methyl-2-pentanone	0.252	0.25	-	0.8	20	81	0
Tetrachloroethene	0.556	0.544	-	2.2	20	80	0
trans-1,3-Dichloropropene	1.217	1.19	-	2.2	20	83	0
Ethyl methacrylate	1.013	1.009	-	0.4	20	84	0
1,1,2-Trichloroethane	0.55	0.527	-	4.2	20	83	0
Chlorodibromomethane	0.642	0.579	-	9.8	20	80	0
1,3-Dichloropropane	1.156	1.116	-	3.5	20	84	0
1,2-Dibromoethane	0.605	0.557	-	7.9	20	79	0
2-Hexanone	0.628	0.595	-	5.3	20	83	0
Chlorobenzene	1.97	1.999	-	-1.5	20	85	0
Ethylbenzene	3.775	4.047	-	-7.2	20	86	0
1,1,1,2-Tetrachloroethane	0.609	0.559	-	8.2	20	80	0
p/m Xylene	1.465	1.52	-	-3.8	20	85	0
o Xylene	1.381	1.387	-	-0.4	20	83	0
Styrene	2.271	2.352	-	-3.6	20	84	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	85	0
Bromoform	10	8.118	-	18.8	20	75	0
Isopropylbenzene	6.908	7.278	-	-5.4	20	85	0
4-Bromofluorobenzene	0.998	1.085	-	-8.7	20	89	0
Bromobenzene	1.432	1.375	-	4	20	79	0
n-Propylbenzene	8.635	9.45	-	-9.4	20	87	0
1,4-Dichlorobutane	2.432	2.458	-	-1.1	20	85	0
1,1,2,2-Tetrachloroethane	1.637	1.652	-	-0.9	20	87	0
4-Ethyltoluene	6.568	7.039	-	-7.2	20	85	0
2-Chlorotoluene	5.695	6.157	-	-8.1	20	86	0
1,3,5-Trimethylbenzene	5.698	6.02	-	-5.7	20	84	0
1,2,3-Trichloropropane	1.399	1.43	-	-2.2	20	85	0
trans-1,4-Dichloro-2-buten	0.603	0.6	-	0.5	20	91	0
4-Chlorotoluene	5.22	5.538	-	-6.1	20	86	0
tert-Butylbenzene	4.523	4.751	-	-5	20	84	0
1,2,4-Trimethylbenzene	5.627	6.042	-	-7.4	20	86	0
sec-Butylbenzene	7.029	7.515	-	-6.9	20	86	0
p-Isopropyltoluene	5.724	6.013	-	-5	20	84	0
1,3-Dichlorobenzene	2.809	2.747	-	2.2	20	81	0
1,4-Dichlorobenzene	2.808	2.834	-	-0.9	20	83	0
p-Diethylbenzene	3.325	3.461	-	-4.1	20	84	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: GEI Consultants	**Lab Number**	: L2266910
Project Name	: TUFTS STREET	**Project Number**	: 045163
Instrument ID	: JACK2	**Calibration Date**	: 12/11/22 12:26
Lab File ID	: J221211A02	**Init. Calib. Date(s)**	: 12/07/22 12/07/22
Sample No	: WG1722184-2	**Init. Calib. Times**	: 05:45 10:33
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
n-Butylbenzene	5.388	6.031	-	-11.9	20	88	0
1,2-Dichlorobenzene	2.592	2.519	-	2.8	20	80	0
1,2,4,5-Tetramethylbenzene	4.886	4.928	-	-0.9	20	81	0
1,2-Dibromo-3-chloropropan	0.235	0.227	-	3.4	20	84	0
1,3,5-Trichlorobenzene	1.636	1.601	-	2.1	20	80	0
Hexachlorobutadiene	0.541	0.538	-	0.6	20	83	0
1,2,4-Trichlorobenzene	1.461	1.413	-	3.3	20	80	0
Naphthalene	4.783	4.709	-	1.5	20	80	0
1,2,3-Trichlorobenzene	1.297	1.257	-	3.1	20	79	0

* Value outside of QC limits.

Appendix E

Pre-Sampling Checklists and Air Sampling Checklists

PRE-SAMPLING FIELD CHECKLIST FOR INDOOR AIR SAMPLING

Survey Completed by: _____ Date: _____

Site Name: _____ Case #: _____

Part I - Occupants

Building Address: _____

Property Contact: _____ Owner / Renter / other: _____

Contact's Phone: home ( )_____ work ( )_____ cell ( )_____

Building occupants: Children under age 13 _____ Children age 13-18 _____ Adults _____

Part II – Building Characteristics

Building type: single-family residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: _____

Number of floors - below grade: _____ (full basement / crawl space / slab) at or above grade: _____

Basement size: _____ ft^2 Basement floor: concrete / dirt / floating / other (specify): _____

Foundation type: finished basement / full basement / partial basement / crawl space / slab on grade

Foundation materials: poured concrete / cinder blocks / stone / other (specify) _____

Foundation integrity: no crack or open joints / moderate cracks or open joints / many cracks or open joints

Basement / slab floor: concrete; good integrity / concrete with cracks / earthen floor / carpet or flooring

Basement use: storage; infrequent use / recreation or living space / bedrooms / other (specify) _____

Type of ground cover around outside of building: grass / concrete / asphalt / other (specify) _____

Moisture conditions in basement: wet / damp / dry / other (specify)_____

Basement sump present? *Yes/No* Sump pump? *Yes/No* Standing water in sump? *Yes/No* Product in sump? *Yes/No*

Type of heating system (circle all that apply):

hot air circulation	hot air radiation	wood	steam radiation	hot water radiation
kerosene heater	electric baseboard	heat pump	other (specify): _____	

Type of ventilation system (circle all that apply):

central air conditioning	mechanical fans	bathroom ventilation fans
individual air conditioning units	kitchen range hood fan	other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene / outside (fresh) air intake

Septic system? *Yes / Yes (but not used) / No* Irrigation/private well? *Yes / Yes (but not used) / No*

Existing subsurface depressurization (radon) system in place? *Yes / No* and running? *Yes / No*
Has the building been weatherized with any of the following:
insulation / storm windows / energy efficient windows Other (specify): _____

Comments:

Part III - Outside Contaminant Sources

MADEP Comprehensive Site List (1000-ft. radius): _____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources – *Use additional sheets if necessary*

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to indoor air sampling event.

Potential Sources	Location(s)	Removed Prior to Sampling? (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)	If Yes is, is there an odor near tank? *None / weak / strong*	NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Recent painting in building?		NA
Hobbies - glues, paints, etc.		

Part V – PID Screening - ***Use additional sheets if necessary***

PID screening of annular space around utility pipes through basement wall / floor? *Yes / no / not accessible*

PID screening of cracks in wall/ floor and/or wall/floor interface: *Yes / no / not accessible / no cracks*

PID screening above space above drain sump? *Not applicable* / *Yes / no / not accessible*

Results of screening / comments :

Part V – Miscellaneous Items - ***Use additional sheets if necessary***

Do any occupants of the building smoke? *Yes / No* How often? _____

Has anyone smoked within the building within the last 48 hours? *Yes / No*

Does the building have an attached garage? *Yes / No*

If so, is a car usually parked in the garage? *Yes / No*

Do the occupants of the building have their clothes dry-cleaned? *Yes / No*

When were dry-cleaned clothes last brought into the building? _____

Have the occupants ever noticed any unusual odors in the building? *Yes / No*

Describe (with location): _____

Any known spills of a chemical immediately outside or inside the building? *Yes / No*

Describe (with location): _____

Have any pesticides/herbicides been applied around the building foundation or in the yard/gardens? *Yes* / No

If so, when and which chemicals? _____

What is the quantity of goods in the basement? As in, if we were to temporarily store all of the goods from the basement, approximately how large of an area would we need? _____

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SUB-SLAB SAMPLING CHECKLIST

Sampling Location:

SV1

Sample ID: 045163-9KNOW-SV1

Date: 6/9/22

Sampling personnel: C. Saledas

Summa Canister ID: 03108

Flow Regulator ID: 02167

Sample Type / Analysis Method: SUMMA/TO-15

Sampling Start Time: 17:08

Sampling Finish Time: 18:08

During Sampling	
Time	**Vacuum**
17:23	**-24.55**
17:38	**-19.3**
17:58	**-12.5**

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: -28.91 in.Hg

Pressure gauge reading (After sample collected): Flow Controller: -9.12 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	79	79
Barometric Pressure:	29.52	29.52
Prevailing Wind Direction:	East	East
General Weather Conditions:	Sunny	Sunny

Photographs taken before sampling? If Yes, what time: Taken by:

Vacuum prior to sampling (in. WC): 0.0

Ambient air concentration (ppm): 0.0

Soil gas concentration prior to sampling (ppm): 0.0-0.2

Vapor point purged for ~5 min with a MiniRAE (500-600 cc/min) prior to sampling.

Comments:

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 9Know-B

Sample ID: 045163-19KNOW-B

Date: 6/8/22-6/9/22
Sampling personnel: M. Greer/ C. Saledas
Summa Canister ID: 631
Flow Regulator ID: 01605
Sample Type / Analysis Method: TO15/Summa **6/9/2022**
Sampling Start Time: 17:14 (6/8/22)
Sampling Finish Time: 17:14 (6/9/22)

During Sampling	
Time	**Vacuum**
17:14	**-12.31**

Did Summa canister go to ambient pressure? Yes / No
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -29.89in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -12.31in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	80 deg F	79 deg F
Barometric Pressure (in. Hg):	29.96	29.52
Prevailing Wind Direction:	West	East
General Weather Conditions:	sunny	sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	75 deg F	75 deg F
Barometric Pressure (in. Hg):	-29.5	-29.5

PID readings at sample location (ppm): 5

Photographs taken before sampling? Yes / No **If Yes, what time:** 17:14 **Taken by: MEG**
Photographs taken after sampling? Yes / No **If Yes, what time: _____ Taken by: _____**

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans?** Yes / **No**
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / No
Were any of the residents home during sampling? Yes / No **If yes, provide detail:**
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Air intake at 4.5 feet.
Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):
Storage, work bench, Prius battery area

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AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 9Know-1

Sample ID: 045163-9KNOW-1

Date: 6/8/22-6/9/22

Sampling personnel: M. Greer/ C. Saledas

Summa Canister ID: 627

Flow Regulator ID: 01126

Sample Type / Analysis Method: TO15/Summa **6/9/2022**

Sampling Start Time: 17:18 (6/8/22)

Sampling Finish Time: 17:18 (6/9/22)

During Sampling	
Time	**Vacuum**
17:18	**-10.87**

Did Summa canister go to ambient pressure? Yes / No

Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.63in. Hg

Pressure gauge reading (After sample collected): Flow Controller: -10.84in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	80 deg F	79 deg F
Barometric Pressure (in. Hg):	29.96	29.52
Prevailing Wind Direction:	West	East
General Weather Conditions:	sunny	sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	80 deg F	80 deg F
Barometric Pressure (in. Hg):	-29.5	-29.5

PID readings at sample location (ppm): 0.2

Photographs taken before sampling? Yes / **No** **If Yes, what time: _____ Taken by: _____**

Photographs taken after sampling? Yes / No **If Yes, what time:** 10:32 **Taken by:** JKF

Was the building aired out prior to sample collection? Yes / No **If yes, how long? Unknwon**

Windows open? Yes / No **Ventilation fans? Yes** / **No**

Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / No

Were any of the residents home during sampling? Yes / No **If yes, provide detail:** one person

Did any of the occupants NOT follow instruction for residents? Yes / No **If yes, describe below: windows slightly open when GEI retu**

Air intake at 4.0 feet.

Basement Ceiling Height (to joists): Front _____; Back_____.

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process. Also, note the usage of the basement (storage only, laundry, etc.):

Appendix F

Field Monitoring Forms

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Farr	**Monitoring Start Time:**	11:40 AM
	D. Miller	**Monitoring End Time:**	12:15 PM
Date:	07/14/22		
Weather:	80°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	-2.47	2.5
Center Header	-2.30	0.7
East Header	-2.47	2
North Header	-2.51	6.3
South Header	-2.60	31
Combined System Influent	-6.48	3.7
Blower Effluent	-12.09	3.4
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	1.47	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	17	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
5122	447

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	C. Saledas	**Monitoring Start Time:**	9:50 AM
	D. Miller	**Monitoring End Time:**	10:05 AM
Date:	08/18/22		
Weather:	70°F, cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	3.5
Blower Effluent	NM	2.6
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	C. Saledas	**Monitoring Start Time:**	12:00 PM
		Monitoring End Time:	12:15 PM
Date:	09/15/22		
Weather:	70°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	3.1
Blower Effluent	NM	2.8
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Farr	**Monitoring Start Time:**	11:55 AM
		Monitoring End Time:	12:45 PM
Date:	10/18/22		
Weather:	60's, cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	-2.43	2.3
Center Header	-2.42	2.4
East Header	-2.48	1.7
North Header	-2.43	2.1
South Header	-2.55	12.6
Combined System Influent	-6.24	2.3
Blower Effluent	-12.17	2.3
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	1.68	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	17	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
4885	426

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	C. Saledas	**Monitoring Start Time:**	1:30 PM
		Monitoring End Time:	1:45 PM
Date:	11/17/22		
Weather:	40's, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	4.1
Blower Effluent	NM	3.8
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

60 Tufts Street
SSDS Field Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Farr	**Monitoring Start Time:**	10:30 AM
	D. Miller	**Monitoring End Time:**	11:00 AM
Date:	07/14/22		
Weather:	80°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE 3000	592-9100019	100.0 ppm Isobutylene	**Y** / N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	N/A	Zeroed before each reading? **Y** / N
Anemomaster (CFM)	Kanomax	A034	N/A	N/A	N/A

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration	
Blower Enclosure Secure?	**Y** / N
Blower On?	**Y** / N
Influent Condensate Accumulated?	Y / **N**
Effluent Condensate Accumulated?	Y / **N**
Condensate Drained?	Y / **N**
Hour Meter Reading	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements		
Monitoring Point	**Pressure (in. H_2O)**	**VOC (ppm)**
North Header	NM*	NM*
South Header	NM*	NM*
Combined System Influent	NM	0.0
System Effluent	N/A	0.0
Blower Filter Inlet	8	
Blower Filter Outlet	39	
Ambient Air Outside Blower Enclosure		0.0

System Flow Rate Data	
Velocity (feet per minute)	**System Flowrate (CFM): = (PI * r^2) * ft per min**
1258	108

NOTES:

1. ppm = parts per million.
2. CFM = cubic feet per minute.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. VFD = variable frequency drive.
8. Hz = Hertz.

COMMENTS:

* Note: Headers not measured because we did not have access to the building.

60 Tufts Street
SSDS Field Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Farr	**Monitoring Start Time:**	10:50 AM
	D. Miller	**Monitoring End Time:**	11:50 AM
Date:	10/18/22		
Weather:	60°F, cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE 3000	592-9100019	100.0 ppm Isobutylene	**Y** / N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	N/A	Zeroed before each reading? **Y** / N
Anemomaster (CFM)	Kanomax	A034	N/A	N/A	N/A

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration	
Blower Enclosure Secure?	**Y** / N
Blower On?	**Y** / N
Influent Condensate Accumulated?	Y / **N**
Effluent Condensate Accumulated?	Y / **N**
Condensate Drained?	Y / **N**
Hour Meter Reading	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements		
Monitoring Point	**Pressure (in. H_2O)**	**VOC (ppm)**
North Header	NM*	NM*
South Header	NM*	NM*
Combined System Influent	NM	0.0
System Effluent	N/A	0.0
Blower Filter Inlet	8	
Blower Filter Outlet	49	
Ambient Air Outside Blower Enclosure		0.0

System Flow Rate Data	
Velocity (feet per minute)	**System Flowrate (CFM): = (PI * r^2) * ft per min**
1255	107

NOTES:

1. ppm = parts per million.
2. CFM = cubic feet per minute.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. VFD = variable frequency drive.
8. Hz = Hertz.

COMMENTS:

* Note: Headers not measured because we did not have access to the building.

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

GENERAL INFORMATION

			Outdoor Monitoring	Indoor Monitoring
GEI Field Representatives:	J. Farr			
	D. Miller	Start-time of monitoring work:	12:45 PM	NA
Date:	07/14/22	End-time of monitoring work:	2:15 PM	NA
Weather:	partly cloudy, ~85 ° F			

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	GEI Identification No.	Calibrant	Successful Calibration
PID (ppm)	RAE Systems	miniRAE3000	SN 592-910009	100 ppm Isobutylene	Yes
Manometer (in. H_20)	Dwyer	Mark III-475-0000-FM	N/A	N/A	Zeroed before each reading
Hot Wire Thermo-Anemometer (ft/min)	Kanomax	A034	N/A	N/A	Zeroed before each reading

OBSERVATIONS AND MEASUREMENTS

ENCLOSURE MEASUREMENTS

Shed Secure? NA

Condensate Accumulated? No

Condensate Drained? No

Influent Flow Rate

Port ID	Flow (cfm)
Manifold 12	110
Manifold 13	109
Manifold 14	199

System Monitoring Points

Port ID	Typical Vacuum Range (in. H_2O)	Vacuum (in. H_2O)	Typical Range of VOCs (ppb)	VOC Concentration (ppm)
Manifold 12	-0.300 to -0.500	-0.711	0 to 2000	0.0
Manifold 13	-0.300 to -0.500	-1.433	0 to 2000	0.0
Manifold 14	-0.300 to -0.500	-0.830	0 to 2000	0.0

EXTERIOR EXTRACTION MONITORING POINT MEASUREMENTS

Monitoring Point Identification	Status (on/off)	Vacuum (in. H_2O)	VOC Concentration (ppm)
122-1	on	-0.533	0.0
122-2	on	-0.566	0.0
122-3	on	-0.542	0.0
126-1	on	-0.540	0.0
126-2	on	-0.421	0.0
126-3	on	-0.464	0.0
134-1	on	-1.217	0.1
134-2	on	-1.325	0.1
134-3	on	-1.200	0.0
138-1	on	-1.314	0.0
138-2	on	-1.303	0.0
138-3	on	-1.304	0.0
142-1	on	-0.614	0.0
142-2	on	-0.633	0.0
142-3	on	-0.623	0.0
146-1	on	-0.598	0.0
146-2	on	-0.590	0.0
146-3	on	-0.583	0.0

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

INTERIOR MEASUREMENTS

Ambient Air Measurements

Classroom	VOC Concentration (ppm)
122	NM
126	NM
134	NM
138	NM
133	NM
137	NM
142	NM
146	NM

Sub-Slab Monitoring Points

Monitoring Point Identification	Vacuum (in. H_2O)	VOC Concentration (ppm)
Room 122A	NM	NM
Room 126A	NM	NM
Room 133A	NM	NM
Room 137A	NM	NM
Room 142A	NM	NM
Room 146A	NM	NM

COMMENTS

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126.
   Manifold 13 is the manifold pipe for rooms 134 and 138.
   Manifold 14 is the manifold pipe for rooms 142 and 146.
2. PID = photoionization detector.
3. ppb = parts per billion.
4. ppm = parts per million.
5. in. H_2O = inches of water column.
6. ft = feet.
7. cfm = cubic feet per minute.
8. NA = Not Applicable.
9. NM = Not Measured.
10. Anemometer not functioning. Influent flow was not measured.

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

GENERAL INFORMATION

			Outdoor Monitoring	Indoor Monitoring
GEI Field Representatives:	J. Farr			
	D. Miller	Start-time of monitoring work:	12:50 PM	NA
Date:	10/18/22	End-time of monitoring work:	1:50 PM	NA
Weather:	cloudy, ~60 ° F			

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	GEI Identification No.	Calibrant	Successful Calibration
PID (ppm)	RAE Systems	miniRAE3000	SN 592-910009	100 ppm Isobutylene	Yes
Manometer (in. H_20)	Dwyer	Mark III-475-0000-FM	N/A	N/A	Zeroed before each reading
Hot Wire Thermo-Anemometer (ft/min)	Kanomax	A034	N/A	N/A	Zeroed before each reading

OBSERVATIONS AND MEASUREMENTS

ENCLOSURE MEASUREMENTS

Shed Secure? NA

Condensate Accumulated? No

Condensate Drained? No

Influent Flow Rate

Port ID	Flow (cfm)
Manifold 12	92
Manifold 13	78
Manifold 14	91

System Monitoring Points

Port ID	Typical Vacuum Range (in. H_2O)	Vacuum (in. H_2O)	Typical Range of VOCs (ppb)	VOC Concentration (ppm)
Manifold 12	-0.300 to -0.500	-0.768	0 to 2000	0.0
Manifold 13	-0.300 to -0.500	-1.692	0 to 2000	0.0
Manifold 14	-0.300 to -0.500	-0.883	0 to 2000	0.0

EXTERIOR EXTRACTION MONITORING POINT MEASUREMENTS

Monitoring Point Identification	Status (on/off)	Vacuum (in. H_2O)	VOC Concentration (ppm)
122-1	on	-0.580	0.0
122-2	on	-0.607	0.0
122-3	on	-0.597	0.0
126-1	on	-0.588	0.0
126-2	on	-0.451	0.0
126-3	on	-0.479	0.0
134-1	on	-1.202	0.0
134-2	on	-1.350	0.0
134-3	on	-1.191	0.0
138-1	on	-1.593	0.0
138-2	on	-1.517	0.0
138-3	on	-1.461	0.0
142-1	on	-0.625	0.0
142-2	on	-0.644	0.0
142-3	on	-0.649	0.0
146-1	on	-0.597	0.0
146-2	on	-0.647	0.0
146-3	on	-0.583	0.0

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

INTERIOR MEASUREMENTS

Ambient Air Measurements

Classroom	VOC Concentration (ppm)
122	NM
126	NM
134	NM
138	NM
133	NM
137	NM
142	NM
146	NM

Sub-Slab Monitoring Points

Monitoring Point Identification	Vacuum (in. H_2O)	VOC Concentration (ppm)
Room 122A	NM	NM
Room 126A	NM	NM
Room 133A	NM	NM
Room 137A	NM	NM
Room 142A	NM	NM
Room 146A	NM	NM

COMMENTS

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126.
   Manifold 13 is the manifold pipe for rooms 134 and 138.
   Manifold 14 is the manifold pipe for rooms 142 and 146.
2. PID = photoionization detector.
3. ppb = parts per billion.
4. ppm = parts per million.
5. in. H_2O = inches of water column.
6. ft = feet.
7. cfm = cubic feet per minute.
8. NA = Not Applicable.
9. NM = Not Measured.
10. Anemometer not functioning. Influent flow was not measured.

Appendix G

EPMM Inspection Forms

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Address:**	13 Knowlton Street
		Monitoring Start Time:	11:30 AM
Date:	11/30/2022	**Monitoring End Time:**	12:15 PM
Weather:	Cloudy, ~40° F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	NA	100 ppm Isobutylene Time:	**Y** / N Cal. Reading (ppm): 100.1
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? **Y** / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	**Pressure (in. H_2O)**	**VOC (ppm)**	**Location Description (e.g., distance from foundation walls)**
Radon Fan On?	(Y) / N	SSVS Influent Pipe	0.6	0.0	0.67 Dwyer
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	SS1	0.09	0.0	by water heater
Excessive fan noise?	Y / (N)	Ambient Air	NA	0.0 - 0.1	
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor				
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

Replaced node battery 00 off

COMMENTS:

1. Finished basement.
2. Ambient Air = 0.1 ppm
3. Replaced node battery

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	C. Saledas, D. Miller	**Address:**	95 Franklin St
		Monitoring Start Time:	9:30 AM
Date:	8/18/2022	**Monitoring End Time:**	10:00 AM
Weather:	Sunny, 85°F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909687	100 ppm Isobutylene Time:	(Y) / N Cal. Reading (ppm):100.1
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	System Influent Pipe	0.4	1.5	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	Ambient Air	N/A	0.0	
Excessive fan noise?	Y / (N)				
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor				
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

COMMENTS:

1. Observed 2 patches of epoxy peeling and chippig on floor near furnace, total ~2.5 square feet.
2. Minor surficial crack near stairs, ~18" long
3. Three areas of flaking epoxy each less than 1 sq ft observed in 2018, did not obsereve.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	C. Saledas D. Miller	**Property Address:**	166-168 Glen Street
Date:	08/08/22	**Monitoring Start Time:**	9:00 AM
Weather:	Cloudy, ~60°F	**Monitoring End Time:**	9:30 AM
		Option 2 or 3:	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909246	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.3

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	Y / (N)

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Water staining on epoxy on chimney and floor, near furnace.
2. Some cracking in previously repaired areas on floor.
3. Took photos of cracks and told Martin Kwok (owner unit 1) that epoxy would be re-applied at a later date.
4. Ambient Air = 0.2 ppm.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	C. Saledas D. Miller	**Property Address:**	32 Knowlton Street
Date:	08/17/22	**Monitoring Start Time:**	9:00 AM
Weather:	Sunny, ~70°F	**Monitoring End Time:**	9:30 PM
		Option 2 or 3:	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909687	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.0

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	(good) / fair / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Basement is partially finished with some SSDS pipes hidden behind walls. No piping is visible.
2. Exterior piping appeared in good condition. PID Reading: 0.0 ppm
3. Ambient Air = 0.0 ppm
4. One noticeable crack on the basement floor

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	D. Miller	**Address:**	18 Morton Street
		Monitoring Start Time:	12:30 PM
Date:	11/30/22	**Monitoring End Time:**	1:15 PM
Weather:	CLoudy, ~40° F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909771	100 ppm Isobutylene Time:	(Y) / N Cal. Reading (ppm): 100.1
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	System Influent Pipe	1.0	0.0	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	System Influent Pipe (Dwyer Manometer)	1.08	0.0	
Excessive fan noise?	Y / (N)	SS1	0.18	0.0	Under couch
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor	SS2	0.04	0.0	
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor	ambient air	N/A	0.0 - 0.1	
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

COMMENTS:

1. No downdraft prevention cap present.
2. Replaced node battery

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	C. Saledas, D. Miller	**Address:**	31-33 Knowlton Street
		Monitoring Start Time:	9:00 AM
Date:	08/17/22	**Monitoring End Time:**	9:30 AM
Weather:	Sunny, ~50°F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909687	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	System Influent Pipe (Dwyer Manometer)	0.192	0.0	Need to replace, all water evaporated
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	SS1	-0.031	0.1	
Excessive fan noise?	Y / (N)	SS2	-0.007	0.1	
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor	Ambient Air	N/A	0.0	
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				Degraded concrete in storage room, likely due to water infiltration

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

Shut down fan, no notification.

Ran REPORT stestem off. Restarted stystem.

Ran REPORT ststem on. We are not receiving shutdown notices, but system recognized shutdown

Replaced node battery.

COMMENTS:

1. Significant shallow cracks near stairs. Worn concrete in storage area, screened with PID = 0.0 ppm.
3. Ambient Air = 0.0 ppm.